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THE BLIND: THEIR CONDITION AND THE WORK BEING DONE FOR THEM IN THE UNITED STATES

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THE BLIND

THEIR CONDITION AND THE WORK BEING DONE FOR THEM IN THE UNITED STATES

BY

HARRY BEST, PH.D.

AUTHOR OF "THE DEAF: THEIR POSITION IN SOCIETY AND THE PROVISION FOR THEIR EDUCATION IN THE UNITED STATES"

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TO
THOSE BEARING THE HEAVIEST OF HUMAN SORROWS
BUT IN WHOSE SOULS THERE SHINETH AN EVERLASTING LIGHT
AND
TO THOSE WHO LABOR FOR THEM
WITH INFINITE COURAGE AND FAITHFULNESS

FOREWORD

In the present study the field of inquiry in respect to the blind has been limited to the United States, except in so far as an account is necessary of the operations in foreign countries in the way of affording instruction to blind children and of devising a system of raised print, as an introduction to the work in this country. References are accordingly only to American sources, save as to a restricted number of publications in England dealing with the two subjects mentioned, with popular conceptions regarding the blind, and occasionally with other matters.

To have extended the scope of the study to include countries besides the United States, even for general comparative purposes, would have required a visit to those countries, with protracted investigations. Such a survey, furthermore, would have expanded the work to dimensions far too great for a volume of the contemplated size. Yet because of the number of persons who have become blind in other lands as a result of present world conditions, very keen is our regret that our study may not relate to them. Perhaps for such its greatest service may lie in the presentation of what has been attempted to be made a thorough and accurate statement of the condition of the blind in America and of the work being done for them here.

For all that has been set down the writer must alone accept the responsibility. For generous assistance, however, of one kind and another rendered to him by others he gladly acknowledges his gratitude. Certain ones he feels constrained to mention by name, especially for reading a greater or less part of the manuscript or proofsheets: Mr. E. E. Allen, Director of the Perkins Institution and Massachusetts School for the Blind; Mr. E. M. Van Cleve, Principal of the New York Institute for the Education of

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Particular obligations are due to the Special Reference Library of the Perkins Institution, with its catalogues in ink print of works relating to the blind. Acknowledgment is also to be made of permission to examine certain unpublished manuscripts at the Pennsylvania Institution. Finally, mention is not to be omitted of the courtesies extended by the National Committee for the Prevention of Blindness, the United States Bureau of Labor Statistics, the American Association for Labor Legislation, the Safety Institute of America, the National Safety Council, the Conference Board on Safety and Sanitation, and the Metropolitan Life Insurance Company.

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INTRODUCTION

Of the blind much has been written. Their misfortunes and their sorrows, their struggles and their attainments, their fortitude and their heroism, have all received commentary. At the story of those who sit in darkness, of the lot which they endure, and of the things which they have overcome, a sigh of compassion has arisen to many a lip, a tear of sympathy to many an eye, a glow of admiring pride to many a cheek. It is perhaps well that this should be. The deprivation entailed in the loss of sight is verily a grievous one—one to which mayhap none other befalling the sons of men is to be likened. That commiseration for the state of the blind should so widely be evoked in the breasts of their fellow creatures is a tribute to the great heart of humanity.

Yet praiseworthy as are the aims of many of the accounts of the blind, the nature of these accounts remains largely one of sentiment. The condition and the problems of the blind portion of the human race have in the main received notice as matters of "human interest," and the points which have in the greatest degree been chosen for attention are those which might heighten this feature. Concern in the blind that is based upon their actual position in society and the treatment which they have received from it, purely as a matter of scientific inquiry—though in no wise removed from a profound human love, and indeed wrapped about therewith—has been of secondary moment. In other words, an examination of the blind and of their estate from the point of view of the social economist—the presentation of something of what has come to be known as a "social survey" respecting them—has as a comprehensive study been wanting.

The object of the present work is to consider the blind,

as respects the United States, with this latter conception in mind. While great would be our disappointment if there were not found in what we shall relate an abundance of "human interest," it is not in such primarily that we are to concern ourselves. Nor is our approach to the problems of the blind to be by any of the special paths of education, of medicine, or of law, though all these aspects will have to be touched upon. Nor yet again is our task that of dealing with this class as a problem of psychology, or of any particular form of abnormality, though more or less consideration will have to be given to these points.

Rather, we are to regard the blind as certain components of the population of the state who demand classification and attention in its machinery of organization. We are to examine the various problems that are raised by the presence in the body politic of a group of persons known as the blind, and the several measures that have been put forth to deal with the problems thus brought to view. In this way we shall aim to discover the attitude of society or of the state towards the blind, together with the duties which have been recognized with respect to them, and the extent and the form, as well as the adequacy and the correctness, of the treatment accorded to them.

The attitude of society towards the blind has hitherto, as we have intimated, been chiefly one of compassion; and because of this they have largely been thought of in a sentimental way. As we proceed to inquire into the provisions that have been made for the blind in the past, we shall find that in the main these have been limited to two forms—the supplying of the means of education for blind children, and the more or less indiscriminate giving of alms or similar doles to such of the blind as have crossed our paths. The measures for the instruction of blind children have as a general thing been the sole organized proceeding attempted for the blind. Direct public care has mostly been limited to the creation and maintenance of schools, and attention has not often advanced further.

Such a policy has in effect amounted to allowing the blind, after their departure from the schools, as well as those others whose blindness has come after the period of youth, to shift for themselves, with little or no aid or direction from outside. The result has not always been well. Not only has it proved that those persons who lose sight in early years are at peculiar disadvantage in the work of the world in later years, but also that those to whom blindness comes in adult life are called upon to face a condition hardly less difficult. In all too many cases the want of sight creates a situation beyond the power of the blind to meet, and in numbers they unwillingly drift into a state of dependence. Thus in the race of life, unless special provision is undertaken, a large portion are doomed to distress and want—even though there are at times among them souls so great that the clouds of misfortune are pierced through.

All this has been realized, in howsoever small a degree, during the entire period of work for the blind in America; and from time to time, practically from the beginning, the question of larger provision has received consideration. With the situation just recounted there has never been any general satisfaction; and here and there it has been sought to reach the adult blind in some effective manner, no less than blind children in their schools. But, as a usual thing, when an attempt to do more for the blind has been made, it has been piece-meal, as it were, and limited either in scope or in locality. Growth of interest in the blind of a really general character has been gradual; and proceeding from what has appeared to be the simplest action, has often followed rather clearly defined lines. Beginning with the schools for the education of the young, together with some form or other of material relief in diverse cases, and as a natural result of the educational provision in the preparation of reading matter for the special benefit of the blind, the movement after a time is extended to afford public library facilities for the blind, with perhaps the distribution in some measure of reading matter in the

home. As a development of the latter activity, actual teaching of various kinds is introduced into the homes for the benefit of the grown-up blind. Paralleling all such provision of an intellectual nature, though in point of time not infrequently preceding it, comes assistance of a more substantial character, in the creation of a few small industrial establishments, perhaps as an extension of the work of the schools, and sometimes begun very early in their history, while the general question of industrial employment for the blind receives greater and greater attention. Inquiry becomes particularly directed to the possibilities of the creation of industrial centers or establishments in which employment may on a considerable scale be provided for those of the blind who are able to work, thus affording them occupation and giving them an opportunity to become wage-earners to a greater or less extent. In the meantime special homes for the aged blind appear in this or that place, furnishing a retreat for a limited portion of the blind population; and later are added homes for the care of very young blind children. As a last resort, for the assistance of those among the blind for whom no other satisfactory or adequate treatment seems available, a system of pensions or similar aid is introduced, which will render material relief in a regulated manner. Here there is found to be opened up a vast field of inquiry as to the ultimate form of relief to be held out to the blind.

As a directing force in some of the beneficial activities initiated, and sometimes with a particular sphere of operations outlined, there are organized special associations or societies composed of persons in private life, which are concerned in the welfare of the blind in different ways. In part from the example set by these bodies, and as the final development in a comprehensive scheme of work for the blind, emerge public commissions created directly by the state, which make manifest its interest in their problems and its conviction that it has a real duty to perform with respect to them. Both the private societies and the public

commissions adopt programs containing various measures designed to assist and direct the blind in not a few capacities, which usually begin with the maintenance of individual records, and which may in the end come to have an extended range.

During all these different steps a question has presented itself with more and more frequency and insistence. This is whether, after all, blindness should itself be accepted as a settled condition with us. With increasing emphasis and directness, and in all seriousness, we are asking ourselves whether a considerable part at least of this affliction might not have been prevented. So decidedly has interest turned to this phase of the work in respect to the blind that it may be said to-day to be the subject of chief attention therein. The result is that vigorous measures are being laid hold of to bring about the elimination of blindness so far as this may be humanly possible.

The activities which we have now related may be divided into five groups: (1) educational, including the establishment and maintenance of schools for blind children, and intellectual provision of several kinds for blind adults; (2) eleemosynary, including the creation of homes for the care of the blind, both adults and children, and the adoption of a general pension system or other system of relief; (3) industrial, consisting of various measures designed to give the blind employment; (4) directive, including the work of associations and commissions for the blind; and (5) preventive, consisting of operations to prevent blindness.

Such constitutes what may be regarded as a fairly complete outline of work for the blind, so far as it is in evidence in America to-day. In it the thing of greatest value, next after the matter of the prevention of blindness itself, may be said to lie in the understanding of the fact that there are, not one, but several classes of the blind to be dealt with, each of which requires special and appropriate attention.

The possibilities of a definite and comprehensive program for the blind have been tardily seen, and its general adop-

tion but begun. Only in a comparatively few localities have efforts been put forth to provide for all the blind according to their several needs. A general program is, therefore, to be considered for the present as rather an ideal or standard. In the following pages it will be our purpose, from a study of the various activities already brought into being, to ascertain how far this seems actually to have been realized.

The better to study the several forms of work for the blind now engaged in, we shall divide our theme into seven parts. In Part I we shall seek to obtain a general view of the blind. First, we shall determine who are meant by "the blind," and how many of them there are in the United States, together with other particulars regarding them as a class. Our attention will next be devoted to their present position in society, considered from several different aspects, which will include their legal status, or the attitude of the law to them, with the extent to which it has given special concern to them; their economic condition, with special examination of the proportion discovered to be self-sustaining, and of the means from which their general support is derived; their place in popular conceptions, with the extent to which justification therefor exists in fact; and the cost of blindness, including both that to the individual and that to the state.

In Part II we shall consider the possibilities of the prevention of blindness—the object of foremost concern in the discussion of the problems presented by the blind. This will involve a careful examination of the causes of blindness, and the proportion found to be preventable by present known means; of the effects of heredity upon blindness, with consideration of possible action on the part of society in this regard; of the extent that blindness from certain diseases may be arrested, with the measures that may be and have been put forward to this end; of the extent that blindness from accidents and injuries to the eye may be checked, with the measures that may be and have been

put forward to this end; of the question whether or not the number of the blind is tending to gain at present in relation to the general population, or whether blindness may be regarded as an increasing or a decreasing phenomenon in society—perhaps, from our point of view, to be regarded as the most important of all the questions for which we are called upon to find answer; and, finally, of the organized movements which have been set on foot toward the prevention of blindness—a matter of the highest significance.

In Part III we shall consider the provisions which have been made for the education of blind children, these being, as we have observed, the initial form of public treatment which the blind have received, and the one of the greatest extent. First, we shall briefly record the earliest attempts at instruction in the Old World, culminating in the founding of schools. Thence we shall follow the transition of the work to America and its development here. We shall consider the establishment of the early schools, and shall watch the spread of instruction over the country, noting how the first movements were those of private initiative, which in time were seconded or taken over by the state. In determining how far the state has seen and has performed its duty in respect to the education of the blind, we shall find that provision has been made in all the States, most having created special institutions for the purpose. We shall examine the organization of these institutions, and also the general arrangements in effect in the several States. The development of the work in later years includes a system of day schools in certain centers, to which due attention will have to be given, as well as to the measures contemplated or attempted for the higher education of the blind. Following this we shall consider how each State has been found individually to provide for the instruction of the blind, observing also the extent to which the States have seen fit to refer in their Constitutions to the schools, and the extent to which the schools are regarded as purely educational. We shall then proceed to inquire into the terms and regula-

tions of admission of pupils into the schools; and we shall make particular investigation with regard to how far the educational opportunities of the state are being availed of, which will include the extent of education among the blind generally, and the measures demanded to make its offer of full effect. The strictly educational problems of the blind are not within the province of our study, but to the forms of instruction afforded in the schools summary reference may be made. Finally, we shall mark what is the cost to the state of all this activity for the education of the blind, noting also how far assistance in the work has been rendered by private benevolence.

In Part IV we shall pass from the consideration of intellectual provision for blind children to the consideration of that for the adult blind, or of that which is not confined exclusively to schools. As an introduction, we shall take note of the means employed to enable the blind to read, making proper inquiry into the development of systems of raised print, and with examination of the methods now in use, as well as of the extent of the ability of the blind generally to read such print. The special provision, as a result of the utilization of this type, assumes, we shall discover, three forms, each of which will be duly presented: the preparation of matter in raised print; the distribution of such matter, especially by means of libraries; and the carrying of instruction into the homes of the blind, known as home teaching—which may include instruction not only of an intellectual nature, but of other kinds as well.

In Part V our concern is shifted to the material provisions which have been made for the blind. These may be regarded as of several possible kinds. First, we shall consider special homes for the blind, such consisting, on the one hand, of homes for the infirm blind of adult life, and, on the other hand, of homes for very young blind children; and we shall see how far they may be and have been provided to meet the situation. Next, we shall deal with the

question of special industrial establishments and see what they have to offer as a means of betterment of the condition of the blind. This inquiry will involve, on the one hand, consideration of the workshop plan in its several aspects from the theoretical point of view, and, on the other hand, examination of the actual working out in practice of the shops so far established, in which we shall trace their developments to this time and shall analyze their present organization and results. Like attention will have to be given to all other possible forms of industrial provision for the blind—that is to say, in the general industrial ranks of the community, or in the occupations engaged in by those who see. Then, we shall pass under review the plan of pensions for the blind, noting its significance and possibilities, and the extent to which it has thus far been developed; and shall endeavor to determine in what degree this arrangement may be accepted as satisfactorily answering the wants of that portion of the blind for which no other program appears available. Recognizing, however the imperfections of any pension system, we have one other plan for the rendering of material relief to the blind. This is in the way of indemnification for the loss of sight, which is called into play at and because of such occurrence. Though application of the principle on any considerable scale is reserved largely for the future, it may be regarded not only as affording a most satisfactory substitute for the pension arrangement and a very great improvement over it, but as offering what is in many respects the ideal solution of the problem. A further consideration, and the one of the really highest value, is that in this way a premium is put upon the protection of the sight. Three general forms of indemnification for the loss of vision are found to present themselves, each of which will have to have due attention: through suits at law against the party responsible for the injury; through personal insurance, or through insurance policies; and through public or publicly directed measures of some kind, one of which is known as the workingmen's compen-

sation laws, such being the first extension of public concern to the matter.

In Part VI we shall direct our attention to the organizations which have been established to promote the general welfare of the blind. These we shall find to be of two kinds: private associations and public commissions. The fields open to each of them, and their respective activities, will constitute the subject of our inquiry here. In addition, the special provision made by the National Government for persons blinded in military service will call for appropriate treatment.

In Part VII, our final division, we shall review the work for the blind as a whole in the United States, and shall set down the conclusions at which we may have arrived respecting it.

PART I

GENERAL CONDITION OF THE BLIND

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CHAPTER I

GENERAL STATE OF THE BLIND

Definition of a Blind Person

Blindness is to be regarded as of not a few degrees, varying all the way from cases where the want of sight is absolute or total, to cases where the sense of vision, while so impaired as to be of little actual value, does exist in some slight measure. Of the persons whom we know as blind a considerable number are, strictly speaking, only partially so; that is, they possess some remnant of sight, which is usually of such limited extent as to be of little material service; and hence to all practical intents such persons are rightly thought of as "blind." [1] For the purposes of our

[1] "Partial" blindness may extend from the ability to distinguish light from darkness, to the ability to recognize the presence of an object of large size close at hand. Blindness has been divided into three kinds: (1) total or absolute blindness, (2) relative blindness, and (3) practical blindness. *Annals of American Academy of Political and Social Science*, xvii., 1911, p. 273. Another three-fold division is as follows: (1) cases where loss of sight is total or absolute; (2) cases where the fingers cannot be counted at the distance of three feet, but where moving objects can be discerned; (3) cases where moving objects can be discerned at a distance of nine feet, but where no useful vision remains. *Illinois Medical Journal*, xxi., 1912, p. 399. See also Bulletin of Ohio Board of Charities and Correction, xv., 1909, 1, Feb., p. 30; Report of Massachusetts Commission for the Blind, 1909, p. 25; *Journal of American Medical Association*, lv., 1910, p. 303; *Outlook for the Blind*, ix., 1915, p. 56. In the census returns of 1900, of 64,763 persons reported as "blind," 55.0 per cent were "totally blind," and 45.0 per cent "partially blind." Of 6,008 cases investigated by the New York Commission for the Blind in 1906, the respective percentages were 64.9 and 35.1; and of 1,620 cases by the Ohio Commission in 1908, 47.5 and 52.5. From one-half to two-thirds of the pupils in schools for the blind are able to recognize light. *Boston Medical and Surgical Journal*, clxxvi., 1917, p. 803. Of 872 pupils in the Illinois School from 1894 to 1916, 27.0 per cent were totally blind; 33.0 per cent had light perception only; 18.0 per cent were "nearly blind;" and 20.0 per cent had "useful vision." Report, 1916, p. 23. See also Report, 1914, p. 18; *Illinois Medical Journal*, xxvi., 1914, p. 187; Report of Tennessee School, 1910, p. 30. There are thus among the blind a number of "border line" cases.

study we may consider one to be blind who, even with the help of eye-glasses or with other recourse, has not sufficient ocular power for the ordinary affairs of life, or, in particular, for the performance of tasks for which eyesight is essential.[1] In other words, we may treat as blind a person in whom the sense of sight either is entirely wanting, or is so slight as to be of no substantial utility, or a person in whom there exists little or no visual perception.[2]

Number of the Blind in the United States

According to the returns of the Federal census for 1910,[3] the latest to which it is possible for us to have reference,

[1] In this connection there may be pointed out the vital distinction between a man blind in both eyes and a man blind in but one. The latter is not to be regarded as *blind* at all, though he is always in much greater danger of becoming so than is a person with two good eyes. There are many people whose vision lies in a single eye, but who are never thought of or spoken of as "blind." In the census investigations of 1890 such persons were specially enumerated.

[2] According to the definition employed in the United States census, a blind person is one who cannot see to read a book or other printed matter even with the aid of glasses. The definition at one time adopted by the Massachusetts Bureau of Labor Statistics, and subsequently accepted by the New York Commission for the Blind in 1906, holds one to be blind "who by the aid of glasses is yet unable to designate form or color, to count the fingers upon one hand within one foot from the eyes, or to read writing in ordinary print." By the Ohio Commission for the Blind a person has been considered to be blind who is not able to count the fingers at a distance of one meter, or for practical purposes at a distance of three meters. By the Massachusetts Commission for the Blind one is regarded as practically blind who, if a child, possesses not over one-tenth of normal vision, or if an adult, less than one-tenth, while the vision from 20/70 to 20/200 is regarded as a handicap for fine work. The definition of blindness as the possession of not more than one-tenth of normal vision is beginning to be adopted in present workingmen's compensation laws, and has been theoretically accepted by the United States Government for persons blinded in military service. Practical tests sometimes employed are in the ability to recognize faces, or in the ability to make out very large print without great difficulty.

[3] Bureau of the Census, "The Blind in the United States: 1910," 1917; "The Blind Population of the United States: 1910," Bulletin 130, 1915. The blind, with other defective classes, are now regularly enumerated at the Federal censuses. See Stat., 1906, ch. 3048; 1909, ch. 2; 1910, ch. 63; U. S. Comp. Stat., 1916, § 4387. Information regarding blind persons which is found by the census is often placed at the disposal of schools, libraries, and other agencies for the blind. The report for 1910 is an unusually valuable one, containing a full and careful examination of statistics regarding the blind, as well as much other matter. It is in part based on the returns of special schedules for 29,242 blind persons, or 51.1 per cent of the entire number reported. The blind have been included in census enumerations since 1830. (For comparison of numbers reported in the different ones, see Chapter X.) Special schedules have been prepared since 1880, which in 1900 and 1910 were filled out by

there were in the United States in this year 57,272 blind persons, though the actual number is believed to have approximated 70,000.[1] There are thus 623 blind persons per million of population in the United States, or one blind person to every 1,605 of the population.[2]

Of the 57,272 blind persons enumerated, 32,443, or 56.6 per cent, are male, and 24,829, or 43.4 per cent, female. There are thus among the blind 130.7 males to every 100

the blind themselves or by their friends. The making of a full and accurate enumeration of the blind is not an easy matter. This is mainly because of the difficulty in formulating a proper and exact definition of blindness, especially in relation to those too young to have learned to read, and in relation to those who are illiterate; because of the reluctance of parents in certain instances to furnish precise information; because of the failure to find all blind persons; and because of the question of border line cases, often to be included more or less at the judgment of enumerators. In a number of States it is made the duty of certain officials, especially county assessors, local school boards, and the like, to enumerate and report blind and deaf children in their several jurisdictions, chiefly for educational purposes. This requirement, however, is not extensively observed. In several States having special census enumerations, report is occasionally made of the blind.

[1] In this census there were 62,088 blind persons originally reported. Of these 4,463 were subsequently found not to be blind, and 634 were reported twice, while 281 were later discovered, leaving a net total of 57,272. If the same rate of increase as that prevailing between 1880 and 1900, which is thought to be a particularly trustworthy one, had applied, the number of the blind in 1910 would be about 71,000. By the Census Bureau it is believed that the true number is greater than the number given (57,272) by 13,000 or 14,000. In 1900 there were originally reported 101,123 persons, which figure was later, by correspondence and otherwise, reduced to 64,763 verified cases. The number thus eliminated was 35,725, of whom 8,842 declared themselves not to be blind, and 6,544 as blind in only one eye, while for the remaining 19,844 no further information could be secured. It is altogether probable that a certain portion of the latter were really blind, and that they escaped the final enumeration. In addition, it was stated that "an unknown proportion of the blind were not found by the enumerators." See Special Reports of the Census Office, "The Blind and the Deaf," 1906. By the New York Commission for the Blind, which based the number in the United States upon that found in the State of New York, it was estimated that there were 104,610 blind in the country. See Report, 1906, pp. 15, 26. See also Report of Massachusetts Commission for the Blind, 1907, p. 7; Report of Massachusetts Board of Education, 1900, p. 510; *Journal of American Medical Association*, lv., 1910, p. 303; Jewish Encyclopedia, 1907, v., p. 249.

[2] It may be noted here that the total blind population of the world is estimated to be at least 2,390,000 not including the number blinded in the European War. The ratios per million of population in the leading countries, so far as known, are as follows. Canada, 449; Mexico, 782; Argentina, 892; Chile, 800; Austria, 694; Belgium, 435; Denmark, 527; England and Wales, 730; France, 706; Germany, 609; Hungary, 895; Ireland, 982; Italy, 1,175; Netherlands, 463; Norway, 926; Russia (European), 2,016; Scotland, 697; Sweden, 664; Switzerland, 722; India, 1,416; Egypt, 13,251; Australia, 705; New Zealand, 478. The relatively low rate in the United States is largely attributable to the comparatively small number of old people living in it, and to the general effects of immigration.

females, which is a proportion somewhat larger than that for the general population (106.0 males to every 100 males). This is probably due in considerable measure to the particular liability of men to accidents in industrial occupations, especially in mining operations, in which in some manner is caused the loss of sight, and in less measure to wounds to the eye occasioned in military service. The greatest excess of males is found among the foreign born.

By color, 47,585 of the blind, or 83.1 per cent, are white, and 9,687, or 16.9 per cent, are colored—of the latter 8,849, or 15.5 per cent, being Negro, and 838, or 1.5 per cent, being other colored. Blindness thus prevails more extensively among the colored than among the white, the number of the blind per million among the former being 946, and among the latter 582. The high ratio among Negroes is probably to be explained by their general susceptibility to disease and by their want of sufficient care after its acquirement, and among Indians in the greatest degree by the wide existence with them of trachoma.[1] Of the number reported as white, 37,646 are native born, and 9,939 foreign born, representing, respectively, 65.7 per cent and 17.4 per cent of the total. The proportion of the blind among the foreign born is above that among the native born, the number per million of the one being 745, and of the other 550. The difference is perhaps largely to be accounted for by the greater liability to industrial accidents to which persons of foreign birth are subject. Another contributing factor is the relatively high percentage of old persons among them, which is mainly due to their adult age at the time of their entry into this country, with the inclusion of but a small number of persons already blind, this being further reduced by restrictive regulations. Of the foreign-born blind, the country of birth of 26.7 per cent is Germany; of 23.1 per cent, Ireland; of 11.3 per cent, England and Wales; and of 9.8 per cent, Canada and Newfoundland—these four countries together furnishing 70.8

[1] The disease known as trachoma, however, seems to be much less prevalent among the Negro than among the white population.

per cent. The heavy proportions from them are simply the result of the older immigration in which they were so largely represented, with now a greater number of blind persons in advanced years among them. The proportion of the blind from no other single country is in excess of 4.0 per cent.[1]

In the following table are shown the number of blind persons found in the several States, with the number per million of population.[2]

NUMBER OF THE BLIND IN THE UNITED STATES

State	Number	Number per million of population	State	Number	Number per million of population
United States	57,272	623	Montana	168	447
Alabama	1,572	735	Nebraska	464	389
Arizona	196	959	Nevada	97	1,185
Arkansas	1,201	763	New Hampshire	291	676
California	1,329	559	New Jersey	1,127	444
Colorado	378	473	New Mexico	554	1,693
Connecticut	553	496	New York	4,692	515
Delaware	131	647	North Carolina	1,563	708
Dist. of Columbia	223	674	North Dakota	167	289
Florida	402	534	Ohio	3,740	785
Georgia	1,701	652	Oklahoma	874	527
Idaho	158	485	Oregon	297	441
Illinois	2,975	528	Pennsylvania	4,182	546
Indiana	2,121	785	Rhode Island	314	579
Iowa	1,388	624	South Carolina	1,011	667
Kansas	1,069	632	South Dakota	268	459
Kentucky	2,153	940	Tennessee	1,956	895
Louisiana	1,107	668	Texas	2,439	626
Maine	585	788	Utah	188	504
Maryland	802	619	Vermont	301	846
Massachusetts	2,046	608	Virginia	1,649	800
Michigan	1,574	560	Washington	439	384
Minnesota	881	424	West Virginia	797	653
Mississippi	1,338	745	Wisconsin	1,321	566
Missouri	2,442	741	Wyoming	48	329

From this table it appears that to a considerable extent the geographical distribution of the blind follows that of

[1] There is, relatively, a large blind population of Mexican birth, perhaps due in considerable measure to the prevalence of smallpox among such persons, and to their particular liability to industrial accidents.

[2] In the census of 1910 there were included 584 blind-deaf persons, and in that of 1900, 491. In 1910 there were found 180 blind persons in the Hawaiian Islands, and 1,603 in Porto Rico.

the general population. The largest proportions of the former seem to be in the southeastern part of the country, in a few States in the far Southwest, in a few States in the extreme Northeast, and in certain of the Middle States from the Lakes to the Gulf. The smallest proportions are spread over a vast area in the Northwest, embracing a wide expanse west of the Missouri River and south of the Canadian border, and over several of the Middle Atlantic States. The highest ratio of blindness to population is found, in the order named, in the States of New Mexico, Nevada, Arizona, Kentucky, Tennessee, Vermont, Virginia, Maine, Indiana, Ohio, Arkansas, Missouri, and North Carolina—each of these States having a ratio of more than 700 per million of population. The lowest ratios occur, in the order named, in the States of North Dakota, Wyoming, Washington, Nebraska, Minnesota, Oregon, New Jersey, Montana, South Dakota, Colorado, Idaho, and Connecticut—each of these States having a ratio of less than 500 per million.

To what the variations in the proportion of the blind in different States are to be ascribed, we know only in part. The high rate in the States of the Southeast and of the far Southwest is no doubt due in very large measure to the extreme prevalence of the disease known as trachoma in certain of the States in these areas, notably in Kentucky, Virginia, Tennessee, and North Carolina, and in New Mexico, Nevada, and Arizona, among the large Indian population of which latter group this disease is endemic. In the latter section also the rate is further influenced by the considerable Mexican element, among whom blindness exists to an excessive extent, smallpox being an additional frequent cause among both these races.[1] The proportion in the South is generally affected by the high ratio prevailing among its Negro population, and in less degree by its mining operations. A probable factor in the extent of blindness in certain of the States in the Northeast, especially of New

[1] See *Journal of American Medical Association*, lxv., 1915, p. 868.

England, lies in the great number of very old people living in them, upon whom cataract and glaucoma, two of the most frequent causes of blindness, are particularly wont to fall. A contributing force in this section may be the concentration of a large part of its population in urban centers, in which the disease ophthalmia neonatorum is often especially prevalent. The situation in the Middle Atlantic States is affected no doubt by the greater liability in them to industrial accidents, especially in mining operations, though this is offset in no small measure by the numbers of recent immigrants, among whom blindness is on the whole relatively less extensive, and by the usual residence of such persons in cities where fuller medical facilities may be available. For the small proportion in the Northwest the main reason may lie in the fact that the population is very largely made up of new-comers, among whom blindness is less likely to obtain.[1] It would probably be even lower but for the frequent occurrence of industrial accidents resulting in blindness, especially in mining. Finally, with respect to the country as a whole, there remains the possibility that the census may have been taken with more thoroughness in some areas than in others.[2]

The Blind According to Present Age

Much the greater number of the blind are found in adult life, especially in the years of middle life, and even more in those of advanced age. Indeed, so notable is the relative increase in the number of the blind in the higher age periods of life that blindness may well be regarded as a condition

[1] See *Northwestern Medicine*, xv., 1916, p. 87.

[2] Blindness is found to be relatively less extensive in centers of population than in rural districts. In cities with a population of over 100,000 the number of blind persons per million is 490; in cities of from 25,000 to 100,000, 515; and in remaining sections, 678. This situation is probably to be attributed to the smaller proportion of old people in the cities, and to the better medical treatment to be had in them, though their advantages are to a certain extent counterbalanced by the greater liability to accidents and to certain diseases in them. On the geographical distribution of the blind, see "The Blind in the United States," pp. 22–29, 41, 42, 103–105; "The Blind Population of the United States," pp. 12–14, 165–169.

peculiarly incident to old age, or even as a disease to which the aged are peculiarly liable.

In the following table are presented the number and the percentage of the blind in the different age periods, together with the percentage for the general population and the number of the blind per million of the general population in the same age periods, so far as report is made.[1]

NUMBER OF THE BLIND ACCORDING TO PRESENT AGE

	Number	*Per cent*	*Per cent of general population*	*Number of blind per million of population*		*Number*	*Per cent*	*Per cent of general population*	*Number of blind per million of population*
Total....	57,121	100.0	100.0	622	40 to 44 ..	2,797	4.9	5.7	532
Under 5..	551	1.0	11.6	52	45 to 49 ..	3,325	5.8	4.9	744
Under 1.	70	0.1	2.4	32	50 to 54 ..	3,748	6.6	4.2	961
1 to 4..	481	0.8	9.2	57	55 to 59 ..	3,695	6.5	3.0	1,326
5 to 9...	1,248	2.2	10.6	128	60 to 64 ..	4,483	7.9	2.5	1,977
10 to 14..	1,997	3.5	9.9	219	65 to 69 ..	5,102	8.9	1.8	3,038
15 to 19..	2,200	3.9	9.9	243	70 to 74 ..	5,111	8.9	1.2	4,589
20 to 24..	2,253	3.9	9.9	249	75 to 79 ..	5,108	8.9	0.7	7,655
25 to 29..	2,247	3.9	8.9	275	80 to 84 ..	4,129	7.2	0.4	12,833
30 to 34..	2,291	4.0	7.6	329	85 or over.	4,306	7.6	0.2	25,748
35 to 39..	2,530	4.4	7.0	396	Unknown .	151	...	...	.....

It thus appears that the number of the blind in the years of childhood is comparatively small, while in later periods of life there are shown great increases, the relative proportions growing steadily with each successive age group up to extreme old age. Under twenty years of age, practically one-tenth (10.6 per cent) of all the blind are found; from twenty to forty-nine, slightly more than one-fourth (26.9 per cent); and over forty-nine, more than three-fifths (62.5 per cent). To reverse the scale, nearly nine-tenths (89.4 per cent) of the blind are twenty years of age or over; more than four-fifths (81.6 per cent), thirty or over; nearly three-fourths (73.2 per cent), forty or over; more than three-fifths (62.5 per cent), fifty or over; and nearly one-half (49.4 per cent), sixty or over.

The situation is made even more striking when contrasted

[1] "The Blind in the United States," pp. 31–34, 170–172; "The Blind Population of the United States," pp. 16–23, 43–48.

with that in respect to the general population, the number of old persons in which constantly decreases in the higher age groups; and perhaps more still when examined in conjunction with the rapidly mounting ratios of the blind per million of population in the different periods, these rising from 52 at the earliest age to 25,748 at the latest. It may also be noted that the median age of the general population is 24.0, whereas that of the blind is 59.6. The condition of the blind as to age is accounted for as follows:

Two distinct causes contribute to bring about this situation In the first place, since blindness is a defect which may occur at any period of life, and which is ordinarily not associated with any physical disorder likely to occasion death, the number of blind persons in any given generation will under normal conditions increase steadily with advancing years up to extreme old age. A second and more important factor contributing to an increase of blindness in the later age groups as compared with the earlier is found in the circumstance that two of the chief causes of blindness—namely, cataract, the leading single cause, and glaucoma—are peculiarly affections incident to advancing years; cataract, it is true, may occur at any period of life, but it is so commonly associated with old age that the term "senile cataract" is employed as a generic designation for all forms of noncongenital cataract except those resulting directly from traumatism or disease.[1]

The median age of blind males is 57.3, as against 24.6 for males in the general population, and of blind females 62.3, as against 23.5. The proportion of blind males under twenty years of age is 10.2 per cent; between twenty and fifty-nine, 43.6 per cent; and over fifty-nine, 46.3 per cent; the corresponding proportions for females are 10.9 per cent, 35.5 per cent, and 53.6 per cent. With males the rate begins to increase rapidly after the twenty-fifth year, the effect of industrial injuries to the eye then becoming apparent; while that with females begins to increase after the fortieth year, females after the seventieth year taking the lead over males.

[1] "The Blind in the United States," p. 32; "The Blind Population of the United States," p. 16. See also *Journal of American Medical Association*, lxv., 1915, p. 868.

The excess of males over females is thus greatest in early and middle adult life, and least as old age approaches. This probably results from the special liability of males to industrial accidents and to venereal diseases in the former period, and from the increased incidence of blindness from ocular affections to one sex as well as to the other in later life.

For native-born whites the median age is 56.3, for foreign-born whites 69.1, and for Negroes 55.4. The proportion of the first named class under twenty years of age is 13.1 per cent, between twenty and fifty-nine 41.6 per cent, and over fifty-nine 45.3 per cent; while corresponding proportions for the foreign born are 1.3 per cent, 29.8 per cent, and 68.9 per cent; and for Negroes, 10.0 per cent, 45.6 per cent, and 44.4 per cent. Much the smallest proportion in infancy and childhood and much the largest proportion in old age are found among the foreign born, for reasons already noted. The highest proportion in infancy and childhood and the next highest in old age are among the native-born whites.

In the following table are presented the percentages of the blind in the broad age periods, classified according to sex and nativity and race.[1]

PERCENTAGE OF THE BLIND IN GENERAL AGE PERIODS ACCORDING TO SEX AND NATIVITY AND RACE

	ALL CLASSES			NATIVE-BORN WHITE			FOREIGN-BORN WHITE		
	Both sexes	*Male*	*Female*	*Both sexes*	*Male*	*Female*	*Both sexes*	*Male*	*Female*
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20	10.5	10.2	10.9	13.1	12.8	13.6	1.3	1.2	1.3
20 to 59	40.1	43.6	35.5	41.6	44.4	38.0	29.8	34.8	22.7
Over 59.....	49.4	46.3	53.6	45.3	42.9	48.4	68.9	64.0	76.0

[1] The difference between the sexes among the Negroes is perhaps to be accounted for by several circumstances, especially the large number of old females among them, and the susceptibility of males to venereal diseases. The ratio of the foreign born in later age groups is relatively high in the New England and Middle Atlantic States, perhaps because of the industrial hazards to which they are here exposed; and in certain States of the Southwest in earlier periods, probably because of the presence of a considerable Mexican population.

	Negro			Other Colored		
	Both sexes	*Male*	*Female*	*Both sexes*	*Male*	*Female*
Total	100.0	100.0	100.0	100.0	100.0	100.0
Under 20	10.0	10.0	10.0	7.6	7.2	8.1
20 to 59	45.6	51.0	38.7	33.8	36.2	30.5
Over 59	44.4	39.0	51.2	58.7	56.6	61.3

General corroboration of the results for the United States as a whole are afforded in the returns of special investigations made in individual States. The following were obtained in a census of 3,676 cases in Massachusetts in 1905.[1]

Number of the Blind According to Age in Massachusetts

	Number	*Per cent*		*Number*	*Per cent*
Total	3,676	100.0	61 to 70	680	18.5
Under 4	30	0.8	71 to 80	697	19.0
5 to 16	317	8.6	81 to 90	357	9.7
17 to 20	155	4.2	91 to 100	57	1.5
21 to 25	116	3.2	Over 100	2	0.1
26 to 45	572	15.6	Unknown	9	0.2
46 to 60	684	18.6			

The tabulations made by the New York Commission for the Blind for 5,308 cases in 1906 are thus given.[2]

Number of the Blind According to Age in New York

	Number	*Per cent*		*Number*	*Per cent*
Total	5,308	100.0	50 to 59	783	14.8
Under 20	506	9.5	60 and over	2,410	45.5
20 to 49	1,597	30.0	Unknown	12	0.2

In the following table appear the findings of an investigation of 675 cases in Maryland in 1907.[3]

Number of the Blind According to Age in Maryland

	Number	*Per cent*		*Number*	*Per cent*
Total	675	100.0	50 to 60	58	8.9
Under 17	123	18.5	Over 60	167	24.8
17 to 50	255	38.1	Unknown	72	10.6

[1] Bureau of Labor Statistics, Bulletin no. 12, 1906.

[2] Report, 1906, p. 77.

[3] Report of Commission for the Blind, 1908, p. 5.

The results of an investigation of 712 cases in New Jersey in 1909 are shown as follows:[1]

NUMBER OF THE BLIND ACCORDING TO AGE IN NEW JERSEY

	Number	*Per cent*		*Number*	*Per cent*
Total	712	100.0	20 to 59	366	42.9
Under 5	5	0.7	Over 60	254	35.7
5 to 19	84	11.8	Unknown	3	0.4

The following table presents what has been discovered for 3,806 cases in Massachusetts in 1906,[2] and for 1,975 in Pennsylvania in 1909.[3]

NUMBER OF THE BLIND ACCORDING TO AGE IN MASSACHUSETTS AND IN PENNSYLVANIA

	MASSACHUSETTS		PENNSYLVANIA	
	Number	*Per cent*	*Number*	*Per cent*
Total	3,806	100.0	1,975	100.0
Under 20	434	11.4	38	1.8
20 to 60	1,401	36.8	897	45.5
Over 60	1,971	51.8	1,040	52.7
Unknown	190	5.0	....	.....

THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS

As a corollary of the foregoing findings, we learn that blindness falls with increasing frequency upon men and women advancing in life. That is, blindness not only exists

[1] Proceedings of American Association of Workers for the Blind, 1909, p. 36; *Outlook for the Blind*, iii.. 1910, p. 161. In a less extensive investigation in this State, of 290 found, 31, or 10.7 per cent, were under twenty-one; 45, or 15.5 per cent, from twenty-one to thirty-five; 61, or 21.0 per cent, from thirty-six to fifty; 51, or 17.6 per cent, from fifty-one to sixty; and 102, or 35.2 per cent, over sixty. Report of Commission to Investigate the Condition of the Blind, 1909, p. 7. Of 1,620 cases in Ohio, 34, or 2.1 per cent, were found to be under eight years of age; 201, or 12.4 per cent, from nine to twenty; and 1,385, or 85.5 per cent, over twenty. Report of Commission for the Blind, 1908, p. 15. See also *Ohio State Medical Journal*, v., 1909, p. 468; *Lancet-Clinic*, cx., 1913, p. 487.

[2] Report of Commission for the Blind, 1907, p. 14.

[3] Report of Pennsylvania Institution for the Blind, 1909, p. 22. The small number of persons listed under 20 is due to the fact that the investigation was mainly concerned with adults.

as a condition to a relatively wider extent in the later years of life, but occurs, as the result of some disease or accident, much more often in such later periods. In the following table are set forth the number and percentage of 28,671 blind persons for whom special schedules were returned for the census of 1910, according to the age at which sight was lost.[1]

NUMBER OF THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS

	Number	*Per cent*		*Number*	*Per cent*
Total	28,671	100.0	25 to 34	2,485	8.7
Under 20	8,819	30.8	35 to 44	2,859	10.0
Under 5	4,697	16.4	45 to 54	3,264	11.4
At birth	1,900	6.6	55 to 59	1,620	5.7
Under 1	1,422	5.0	60 to 64	1,919	6.7
1 to 4	1,375	4.8	Indefinite	193	0.7
5 to 9	1,513	5.3	Over 65	6,259	21.8
10 to 14	1,220	4.3	65 to 69	1,791	6.2
15 to 19	1,147	4.0	70 to 74	1,744	6.1
Indefinite	242	0.8	75 to 79	1,235	4.3
20 to 64	13,593	47.4	Over 80	1,361	4.7
20 to 24	1,253	4.4	Indefinite	128	0.4

More than two-thirds (69.2 per cent) of all blindness thus happens after the twentieth year, or in adult life; considerably over one-half (55.6 per cent), after the thirty-fifth, or in middle or late adult life; over one-third (34.2 per cent), after the fifty-fifth, or in late adult life or old age; and over one-fifth (21.8 per cent), after the sixty-fifth, or in old age. Of the blindness occurring under the twentieth year, or in childhood and youth, over one-half (16.4 per cent of the entire amount) comes before the fifth year, and over one-third (11.6 per cent of the entire amount) before the end of the first year of life. The median age at which sight is lost is 41.0. The risk of blindness, it may be observed, is in the

[1] "The Blind in the United States," 1917, pp. 81–94, 188–194. For 571 of the total number returning schedules (29,242), this information was not given. Relatively fewer schedules were received from persons under twenty and over sixty years of age. It is to be remembered that in certain cases it is difficult to determine whether a child is born blind or has become so shortly after birth, and that in others in which there is a predisposition to blindness, the affliction may not actually occur for some years.

first year of life comparatively high; in other years of childhood and youth it is very low; and beginning with adult life, it increases at a constantly accelerated rate.[1]

The respective proportions of males losing sight under twenty, between twenty and sixty-four, and over sixty-four are 29.2 per cent, 51.4 per cent, and 19.4 per cent; and of females, 33.0 per cent, 41.8 per cent, and 25.2 per cent. The median age of the loss of sight with the former is 39.5, and with the latter 44.3. Of the blind under twenty years of age, including those born blind, the proportion losing sight under two years is higher for females, and that for the remainder higher for males; of those between twenty and sixty-four, the proportion losing sight under twenty is higher for females, and that for the remainder higher for males; and of those over sixty-four, the proportion losing sight between twenty and sixty-four is higher for males, and that for the remainder higher for females. The reasons for these differences between the sexes, especially as regards the greater ratio for males in early and middle adult life, are largely the same as those previously given. It further appears likely that most accidents in childhood and youth affect the males.

The respective proportions of the native-born whites losing sight in the three broad age periods are 36.4 per cent, 44.0 per cent, and 19.6 per cent; of the foreign born, 11.8 per cent, 56.0 per cent, and 32.2 per cent; and of Negroes, 24.8 per cent, 55.1 per cent, and 20.1 per cent. The respective median ages for the three classes are 35.9, 54.6, and 41.3. The proportion of the blind losing sight before the completion of the first year of life is considerably the greatest among the native born, especially among those under twenty years of age; and the proportion over twenty years of age losing sight under that age is also greatest among them. There is thus a higher ratio for the native born who are deprived of vision in early life, particularly at birth and in

[1] It is to be borne in mind in this connection that as a greater number of persons are alive at earlier ages, there will always be a greater number upon whom blindness might possibly fall at such ages.

the first year; and for the foreign born so affected in old age, and also, but to a less extent, in middle life.

In the following table are given the percentages of the blind losing sight in the several general age periods, classified according to sex and nativity and race.

PERCENTAGE OF THE BLIND LOSING SIGHT IN GENERAL AGE PERIODS ACCORDING TO SEX AND NATIVITY AND RACE

	All Classes			Native-born White			Foreign-born White		
	Both sexes	*Male*	*Female*	*Both sexes*	*Male*	*Female*	*Both sexes*	*Male*	*Female*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20	30.8	29.2	33.0	36.4	34.7	38.7	11.8	10.8	13.4
20 to 64	47.4	51.4	41.8	44.0	47.5	39.2	56.0	60.6	48.6
Over 64	21.8	19.4	25.2	19.6	17.8	22.1	32.2	28.5	38.0

	Negro			Other Colored		
	Both sexes	*Male*	*Female*	*Both sexes*	*Male*	*Female*
Total	100.0	100.0	100.0	100.0	100.0	100.0
Under 20	24.8	24.9	24.7	24.2	23.0	26.5
20 to 64	55.1	59.4	48.2	49.6	52.8	43.4
Over 64	20.1	15.7	27.2	26.2	24.2	30.1

The tendency of blindness to increase in successive later periods of life[1] may be illustrated in the accompanying table.

[1] "With each successive age period the proportion of the total number of blind who lost their sight in early life diminishes for two obvious reasons. In the first place, the total includes those who lost their sight during that age period, thus reducing the proportion who lost their sight before reaching the given period, and secondly with advancing age the number of survivors of those who lost their sight at an earlier age is naturally reduced by deaths. Notwithstanding this, however, in every age period below 35, the number of blind who either were born blind or lost their sight in infancy is larger than the number losing their sight during any later age period. Of the blind who were between 35 and 44 a larger number lost their sight between 25 and 34 than in any of the earlier age periods distinguished in the table, although even in this case, if the comparison were made by individual decades, the first decade of life would still make the largest contribution. For the later age groups in practically every instance the most numerous group is that comprising persons who lost their sight in the years immediately preceding. Thus in the age group '45 to 54 years' the number who lost their sight between the ages of 35 and 44 is greater than the number losing it in any other age period, while of those from 55 to 59 years of age somewhat more than one-third (36.8 per cent) lost it between the ages of 45 and 54, a proportion much greater than that shown for any other age period. The age group '60 to 64 years' constitutes an apparent exception to the tendency above referred to, in that the most numerous single group in respect to age when vision was lost is that comprising persons who lost it between the ages of 15

showing in percentages the distribution of the blind by age at enumeration in 1910, according to age of loss of sight.

and 54. This apparent exception is, however, obviously explained by the fact that this age period covers ten years of life while the next period, '55 to 59 years,' covers only five years. The blind from 70 to 74 years of age comprised a larger number of persons who lost their sight between the ages of 65 and 69 than of persons who lost it at any earlier age, and those from 75 to 79 a larger number who lost it between the ages of 70 and 74. Among those 80 or over, however, the most numerous group is that made up of persons losing their sight after the completion of their eightieth year. These facts of course bring out clearly, in another way, what has already been said in regard to the risk of blindness at the various ages, namely, that the risk of blindness during the first year of life is comparatively high, that during childhood and youth it is very low, and that beginning with adult life it increases with constantly accelerated rapidity. . . .

"The blind returning schedules in 1910 had on the average been blind for about 16 years. This of course represents merely the average time which had elapsed since the blind living at the time of the census and included in the returns had become blind; it does not indicate the average number of years that a blind person may expect to live after losing his sight, which would probably be somewhat less, notwithstanding the fact that the full term of life for the blind included in the statistics was not complete. This is because the proportion of the blind population losing their sight during any given period of time who are living at any given later date will obviously be larger for those who live a long time after the loss of their sight than for those who survive for only a short time; the blind population actually living at the date of the census had, for example, been accumulating for over 80 years, and it is apparent that it would comprise only an infinitely small proportion of those losing their sight in old age during this period, who would live but a few years after they lost their sight, whereas it probably comprised a considerable proportion of those losing their sight in infancy or childhood, who would in most cases have a fairly long expectation of life. The fact that the 30,000 blind returning schedules at the census of 1910 had on the average been blind for 16 years makes plain, however, the gravity of this misfortune. . . .

"The proportion losing sight in infancy and early childhood (under 5 years of age) grows less with each succeeding group on the basis of age at enumeration. There is, furthermore, a particularly marked decrease for those that lost sight before the completion of their first year of life (including those reported as born blind), who represented one-third (33.7 per cent) of those that lost sight before the completion of their twentieth year and were between 20 and 39 years of age at the date of the enumeration and only one-fourth (25.9 per cent) of those 60 or over when the census was taken. On the other hand, persons who lost sight between the ages of 15 and 19 formed only one-sixth (16.4 per cent) of those from 20 to 39 years of age, as compared with more than one-fifth (23.1 per cent) of those 60 or over. These changes seem too marked to be accounted for by any change in the age distribution of the population under 20, and, moreover, are difficult of explanation by the changes which have taken place in the incidence of blindness at the respective ages, so that the conclusion is almost forced that those losing their sight in infancy tend to die at a somewhat earlier age than those losing it later. This indeed seems more or less in accordance with what might have been expected, as those born blind or losing their sight in infancy from venereal infection from their parents are probably more likely to be otherwise defective physically than those born with normal vision or of healthy parents, while those whose growth went on under normal conditions in their earliest years might well possess more vitality than those who had spent practically all their lives in the more or less abnormal manner which has ordinarily been the lot of the blind child." "The Blind in the United States," pp. 92–94.

PERCENTAGES OF THE BLIND ACCORDING TO PRESENT AGE AND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS

Age of loss of sight	*Total*	*Under 5*	*5 to 9*	*10 to 14*	*15 to 19*	*20 to 24*	*25 to 34*	*35 to 44*	*45 to 54*	*55 to 59*	*60 to 64*	*65 to 69*	*70 to 74*	*75 to 79*	*80 or over*	*Under 20*	*20 to 64*	*65 or over*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	16.7	100.0	88.5	70.0	61.2	50.0	33.3	21.9	14.3	7.4	5.0	2.7	2.5	1.1	0.9	72.7	18.9	1.7
Born blind	6.8	47.9	37.8	29.0	25.1	20.9	13.1	8.7	5.0	2.1	2.4	1.1	1.2	0.4	0.4	30.8	7.3	0.8
Under 1	5.1	39.2	32.1	23.7	21.0	14.0	9.4	5.8	4.1	2.3	1.2	0.5	0.5	0.3	0.1	25.6	5.2	0.3
1	1.3	7.2	5.7	3.5	5.5	4.2	2.8	1.8	1.2	0.6	0.1	0.3	0.1	....	0.1	5.6	1.5	0.1
2 to 4	3.6	5.7	12.9	13.7	9.6	10.9	8.0	5.6	3.9	2.3	1.4	0.8	0.6	0.4	0.3	11.3	4.8	0.5
5 to 9	5.4	....	11.5	21.5	17.7	16.9	11.7	7.7	5.8	3.8	2.3	1.5	0.9	0.9	0.4	16.3	7.0	0.9
10 to 14	4.3	....	....	8.5	14.1	12.9	11.9	8.0	4.4	3.4	2.3	1.5	0.8	0.7	0.4	8.3	6.4	0.8
15 to 19	4.1	....	....	....	7.0	12.5	11.7	9.1	4.2	4.0	3.5	1.8	0.8	0.7	0.4	2.7	6.8	0.9
20 to 24	4.5	....	....	....	....	7.8	14.1	9.7	5.9	4.4	3.8	3.8	1.6	0.7	0.4	....	7.5	1.5
25 to 34	8.8	....	....	....	....	....	17.4	24.3	15.1	10.9	8.5	5.9	5.1	3.2	1.0	....	14.5	3.6
35 to 44	10.2	....	....	....	....	....	....	19.4	28.7	18.0	12.2	9.1	6.5	3.3	2.2	....	15.9	5.0
45 to 54	11.6	....	....	....	....	....	....	....	21.6	36.8	25.8	18.0	12.3	7.4	2.7	....	15.2	9.6
55 to 59	5.8	....	....	....	....	....	....	....	....	11.3	22.6	15.8	8.8	5.3	1.7	....	5.4	7.5
60 to 64	6.8	....	....	....	....	....	....	....	....	....	13.8	24.4	19.1	10.9	4.9	....	2.3	14.1
65 to 69	6.4	....	....	....	....	....	....	....	....	....	....	15.5	27.1	17.7	6.8	....	....	15.9
70 to 74	6.2	....	....	....	....	....	....	....	....	....	....	....	14.7	32.7	15.9	....	....	15.5
75 to 79	4.4	....	....	....	....	....	....	....	....	....	....	....	....	15.4	24.0	....	....	10.9
80 or over	4.8	....	....	....	....	....	....	....	....	....	....	....	....	....	38.3	....	....	12.1

Further and confirmatory evidence as to the ages at which sight is lost by the blind is furnished by the returns of the census of 1900 for 64,763 persons, as shown in the following table.[1]

NUMBER OF THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS (1900)

	Number	*Per cent*		*Number*	*Per cent*
Total	64,763	100.0	20 to 39	10,970	16.9
At birth	4,730	7.3	40 to 59	12,491	19.3
0 to 2	3,436	5.3	60 to 79	13,973	21.3
2 to 4	2,606	4.0	80 and over	3,011	4.7
5 to 9	3,790	5.8	Indefinite (under 20)	890	1.4
10 to 14	2,858	4.4	Indefinite (20 and over)	935	1.4
15 to 19	2,394	3.7	Unknown	2,859	4.4

In the next table are given the number and percentage of the blind according to the age of occurrence of blindness, as found for 5,308 persons in the State of New York in 1906.[2]

NUMBER OF THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS IN NEW YORK

	Number	*Per cent*		*Number*	*Per cent*
Total	5,308	100.0	60 to 69	569	10.7
At birth	357	6.7	70 to 79	408	7.7
Under 1	232	4.3	80 and over	143	2.7
1 to 4	280	5.3	Indefinite		
5 to 9	308	5.8	Infancy	54	1.0
10 to 19	378	7.1	Childhood	45	0.9
20 to 29	364	6.9	Youth	14	0.3
30 to 39	486	9.2	Adult life	167	3.1
40 to 49	600	11.3	Old age	115	2.2
50 to 59	569	10.7	Unknown	219	4.1

The number and percentage becoming blind within different age periods, as discovered for 3,806 persons in Massachusetts in 1907, are shown as follows:[3]

[1] Special Reports of the Census Bureau, "The Blind and the Deaf," 1906, p. 11.
[2] Report of New York Commission for the Blind, 1906, pp. 137–191.
[3] Report of Commission for the Blind, 1907, p. 15.

NUMBER OF THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS IN MASSACHUSETTS

	Number	*Per cent*		*Number*	*Per cent*
Total	3,806	100.0	20–59	1,387	36.4
Under 20	1,094	28.8	20–39	558	14.6
0–1	472	12.5	40–59	829	21.8
1–4	176	4.6	60 and over	1,135	29.8
5–19	446	11.7	Unknown	190	5.0

In the following table are presented the number and percentage of the blind losing sight in different age periods, as found for 778 persons over twenty years of age in Massachusetts in 1906, arranged according to present ages.[1]

NUMBER OF THE BLIND ACCORDING TO PRESENT AGE AND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS IN MASSACHUSETTS

Age of loss of sight	*Over 20*		*20–59*		*Over 60*	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	778	100.0	416	100.0	362	100.0
0–19	209	26.9	193	46.4	16	4.4
20–39	146	18.8	125	30.0	21	5.8
40–59	216	27.7	98	23.6	118	32.0
60–over	207	26.6	...	.....	207	57.2

GENERAL HEALTH OF THE BLIND

The general health of the blind may be said to be little different from that of the seeing. So far as a less robust vitality is manifested on the part of some of the former, this may be regarded as in the main due to the circumstance that a more or less confined life is led and that wholesome exercise is not enjoyed to a full extent, and, in certain cases, to the additional circumstance that, as blindness is often the result of a specific disease or of old age, a further effect may be to reduce the general health below the normal.[2]

[1] Report of Commission for the Blind, 1906, pp. 24, 28; *Charities and the Commons*, xv., 1906, p. 620. See also *Ohio State Medical Journal*, v., 1909, p. 468.

[2] Of 5,308 blind persons found in the State of New York in 1906, the health of 2,753, or 51.9 per cent, was described as "good"; of 1,422, or 26.8 per cent, as "fair"; of 1,030, or 19.4 per cent, as "poor"; and of 103, or 1.9 per cent, as unreported. Report of New York Commission for the Blind, 1906, pp. 102–202. Of 545 blind per

sons applying for a pension in one county of Ohio in 1913, 82, or 15.0 per cent, were found to have other defects in addition to blindness. *Lancet-Clinic*, cx., 1913, p. 487. On the proportion of the blind regarded as also feeble-minded, see pp. 301, 302. In the registration area of the United States (containing 70.2 per cent of the total population) there were from 1913 to 1916, 233 deaths from eye diseases or their annexa, an average of 78.1 each year, or 0.1 per 100,000 of the population. Bureau of the Census, "Mortality Statistics: 1916," 1918, p. 79. It may be noted in this connection that blind persons are occasionally accepted for insurance by life insurance companies, though as a rule under a "sub-standard" policy, or with a "rating up," that is, charged a premium as for a higher age. Very few in fact apply for such insurance. The blind are generally refused accident insurance altogether. Certain railroads decline to receive blind persons for transportation unattended. The number of such railroads, however, is now growing less, largely as a result of agitation conducted by the blind themselves.

NOTE TO CHAPTER I.—The marital condition of the blind, the extent of education among them, and their ability to read raised print are treated, respectively, in Chapters VII, XXI, and XXVI.

CHAPTER II

LEGAL TREATMENT OF THE BLIND

General Attitude of the Law towards the Blind

In ascertaining the general status of the blind in the United States, our first attention should perhaps be directed to the position to which they have been assigned by the state. The attitude of the state towards the various elements that compose its population is represented primarily in the law; and in the special treatment accorded by it to the blind, we may determine the regard in which they are publicly held.

The law in the United States is to be discovered in constitutional provisions, in legislation, and in judicial decisions. With the blind concern is found mainly in the sphere of legislation. Statutory provisions affecting them may be grouped in four divisions. The first has reference to the instruction of the blind. The education of blind children has been provided for practically on the same basis and on the same terms as education for children generally, it being in this respect that the state has occupied itself principally for the greater part of the period of organized work for the blind—a care found to be reënforced in the Constitutions of half the States. Since the beginning of the twentieth century attention has been given in some measure, so far as the carrying of appropriations has been involved, to the extension of means for intellectual improvement to the adult blind, in the providing of printed matter, library facilities, and home teaching, which may be considered as instruction conducted on a scale to include all. In the second division is the action taken by the state in respect to the blind in the creation of special public commissions to be concerned in their general welfare, which are also a development of later years. In the third division are the

several forms of relief devised, indicating that the blind are looked upon as an element dependent in greater or less degree upon the community. In the fourth, or last, division are embraced all other relations of the law to the blind, most being of rather indirect character.[1]

The provision which the state makes for the education of blind children will be duly examined when we come to consider this education, as will the provisions which it makes for the intellectual assistance of the adult. Similarly, we shall reserve our treatment of commissions for the blind for its proper place. In the present chapter our attention will be directed to the material aid which it has been thought desirable to extend to the blind, together with the remaining relations which the law has to them.

In the manifestations of its concern for the material relief of the blind, public action may be said to have assumed two forms, one of which we may call positive aid, and the other negative aid. The positive aid consists of a direct pecuniary allowance on behalf of the blind, which is of various kinds. The negative aid lies chiefly in the remission for the benefit of the blind of some legal imposition or restriction which is obligatory upon the normal elements of the population. The other ways in which the law bears upon the blind are several, and of diverse character. The greater part is for their benefit or for their protection, while the lesser part may be considered as discriminatory with respect to them. In some particulars the statute does not deal with the blind directly, but rather with persons able to see who might be in a position to do them injury.

Legal Measures Designed to Assist the Blind

Legal measures designed to be of substantial benefit to the blind, that is, what we have called positive assistance, we need not discuss here, saving them in the main for more particular treatment in our examination of present practical efforts to better the condition of the blind. It will

[1] On legislation in respect to the blind, see *Ophthalmology*, xiii., 1917, p. 597.

suffice in this place to say that such action relates to the extension of some form of pecuniary advance, or some sort of bounty, and includes whatever provision is embraced in general outdoor relief, aid to homes for the blind, assistance to various organizations laboring in behalf of the blind, and a regular pension system, or indemnities for the loss of sight. In the present chapter we are concerned chiefly with what we have termed negative aid.

The only form of positive assistance which need be referred to at this stage is the inclusion of the blind in relief of a general character, that is, as part of the general system of public charity for the needy, which has had a place in the history of most of the American Commonwealths.[1] In this there has as a rule been little special attention to the blind, they being comprehended among the classes to whom the state has accorded succor. In three States, however, there is particular mention of the blind as objects of public consideration, together with other classes which are supposed to be unable to support themselves, as the lame, the aged, the sick, the disabled, and the like. In Arkansas [2] and Michigan [3] such persons are expressly required to be maintained by the counties in which they have their residence; and in Missouri [4] they are deemed to be "poor," and consequently entitled to suitable relief. In the State of Georgia blind paupers, as well as insane, idiotic, and deaf and dumb paupers, are to be "dealt with according to the laws relating to them." [5] In two other States, New York [6] and Wisconsin,[7] the blind are specifically included among the classes whose support by relatives is required by law.

[1] The first legal reference to the blind in America, so far as discovered, was in the year 1650, when the Colony of Maryland levied a special tax for the benefit of the blind, together with the maimed and the lame. Proceedings and Acts of General Assembly of Maryland, 1650, no. 16 (Archives of Maryland, 1883, p. 296).

[2] Dig. Stat., 1916, § 1144.

[3] Howell's Statutes, 1913, § 3493.

[4] Rev. Stat., 1889, § 7238; 1909, § 1334.

[5] Code, 1861, § 724; Ann. Code, 1914, § 562.

[6] Laws, 1898, ch. 399; Code Crim. Proc., 1918, § 914.

[7] Rev. Stat., 1849, ch. 28; Stat., 1917, § 1502. In this State the blind are mentioned among the classes in almshouses to be investigated by the State board of control. Stat., § 564.

The negative type of aid to the blind, no less than the positive type, is indicative of the general regard in which the blind have been held. In a number of States the law has come to their assistance in a more or less definite way, without involving any material subvention. The principal means are the allowing of the blind to ask for alms, the exempting of them from the usual regulations as to mendicancy, the remitting in respect to them of certain personal or property taxes, and the permitting of them to escape certain duties which are imposed on others—benefits forbidden or indulgencies denied to the general population.[1]

The order of legislation most frequently found is that in which the law in respect to tramps or vagrants is declared not to apply to the blind. The purpose of such enactments is to prevent interference with the privilege of the blind to beg or to solicit alms, which is a frequent practice of tramps and "vagabonds," the view apparently being that this privilege should be left with the blind at all events.[2] In the exception females and minors are sometimes included, and occasionally the crippled, the deaf, or other classes. The tenor of the statutes may be indicated from that which is in force in the State of Massachusetts:

> Whoever, not being a minor under seventeen years of age, a blind person, or a person asking alms within his own city or town, who roves about from place to place begging, or living without labor or visible means of support, shall be deemed a tramp.

Legislation of this character is found in particular in the New England States, all but one of them having some

[1] Now and then there has been some local ordinance or regulation adopted which is designed to be of aid to the blind, as in Chicago and Cleveland, where traffic policemen are required to respond to the whistle of a blind man when in need of help in crossing a street.

[2] The reason for making the exemption is thus explained by a Court, though in a case not directly concerned with the blind: "Females and blind persons are not included within its terms [the terms of the law]. This, presumably, from considerations of humanity, but principally because but little if any danger is threatened from such." *State v. Hogan*, 63 Ohio 202, 58 N. E., 572, 81 Am. St., 626, 52 L. R. A., 863 (1900).

such measure: Maine,[1] New Hampshire,[2] Massachusetts,[3] Rhode Island,[4] and Connecticut.[5] Other States with the law are New York,[6] Pennsylvania,[7] Delaware,[8] Ohio,[9] Indiana,[10] Alabama,[11] Minnesota,[12] and Nebraska.[13]

Next, in a few States the blind are allowed to peddle without being required to take out a license for so doing, a measure designed to give them an advantage which others do not have, or to be compensatory to some extent for their deprivation. With the blind are usually embraced other classes, as the crippled, disabled, or war veterans. This enactment is found in five States, two in New England and three in the South: Maine,[14] Connecticut,[15] Georgia,[16] Alabama,[17] and Arkansas.[18] In Georgia the maintenance of amusement resorts is also included. In the State of New York a special license may be granted free of charge to the adult blind in cities of the first class, or with a population of over a million, for selling goods or newspapers or playing music in the public thoroughfares.[19] In New Mexico a privilege is conferred upon the blind, which may amount

[1] Laws, 1880, ch. 213; Rev. Stat., 1916, p. 1536.

[2] Laws, 1878, ch. 38; Pub. Stat., 1901, p. 814.

[3] Laws, 1880, ch. 257; Rev. Laws, 1902, p. 1795.

[4] Laws, 1880, ch. 806; Gen. Laws, 1909, p. 1281.

[5] Laws, 1879, ch. 59; 1893, ch. 97; Gen. Stat., 1902, § 1341.

[6] Laws, 1898, ch. 664; Code Crim. Proc., 1918, § 887a. The law in this State, however, does not apply to cities of the first and second classes.

[7] Laws, 1879, ch. 34; Purdon's Digest, 1903, p. 5023.

[8] Rev. Stat., 1915, § 3549.

[9] Ann. Gen. Code, 1912, § 13408.

[10] Rev. Stat., 1881, § 2135; Ann. Stat., 1914, § 2640.

[11] Laws, 1881, p. 142; Code, 1907, § 7847.

[12] Laws, 1917, ch. 292; Gen. Stat., Supp., 1917, § 9030.

[13] Laws, 1879, p. 65; Rev. Stat., 1913, § 8861.

[14] Laws, 1889, ch. 298; 1893, ch. 282; 1901, ch. 277.

[15] Laws, 1878, p. 293; Rev. Laws, 1902, § 4650. The law, however, applies only to the blind selling their own wares.

[16] Ann. Code, 1914, § 994. Persons who have lost a limb in the Confederate service or are unfit for manual labor are embraced in the provision.

[17] Laws, 1895, p. 885; Code, 1907, p. 970.

[18] Laws, 1868, p. 5; 1899, ch. 185; 1911, ch. 334; Dig. Stat., 1916, § 8492. The provision applies to hawking, peddling, the giving of entertainments, and brokerage, except in regard to intoxicating liquors. A certificate of attendance at the State school for the blind is necessary.

[19] Laws, 1899, ch. 631; Cons. Laws, 1909, p. 1277. The applicant must be a citizen of the United States, and have been a resident of the city for one year. The license is granted by the Mayor, and is revocable only for good cause.

practically to positive aid, the commissioners of any community ditch being given power to allow, at their discretion, to a blind man or to the widow of such, if having an interest and a water right, free irrigation for an area containing not more than three acres.[1]

Again, in certain States there have been permitted exemptions from taxation of one kind and another in favor of the blind. In Mississippi the blind, with certain other classes, are exempted from the payment of a poll tax, not only by legislative enactment, but by a provision in the Constitution of the State as well.[2] In Maine the blind are exempt from the payment of a poll tax;[3] and in Georgia also in case there is no property held worth more than $500.[4] In Tennessee there is exemption from the payment of a poll tax for schools in favor of the blind, the deaf, and persons incapable of labor, while to the blind is extended a further indulgence in the remission of privilege and license fees except in respect to intoxicating liquors.[5] In Connecticut the blind are exempted from a tax on property up to $3,000, provided that by reason of their blindness they are unable to support themselves and their families.[6] In this State also the products of the blind are exempt from license fees and from attachment in processes of law.[7] In Texas the blind and certain other classes are exempt from the payment of the poll tax, which for the general population is a prerequisite to the right to vote.[8] In a few other States there have been similar provisions.[9]

[1] Laws, 1912, ch. 36; Stat., 1915, § 5770.

[2] Laws, 1880, p. 20; Ann. Code, 1917, § 6855; Constitution, 1890, sec. 243. The deaf and persons who have lost a hand or foot are also included.

[3] Laws, 1907, ch. 52; Rev. Stat., 1916, p. 228. The law was expressly amended to refer to the blind.

[4] Laws, 1869, p. 162; Ann. Code, 1914, § 917. Persons who have lost a limb in the Confederate service are also included.

[5] Laws, 1883, ch. 105; 1895, ch. 120; 1901, ch. 87; Ann. Code, 1917, §§ 686, 701a2.

[6] Laws, 1867, p. 156; 1883, ch. 205; 1899, ch. 9; 1911, ch. 184; 1913, ch. 44; Pub. Stat., 1902, § 2315.

[7] Laws, 1876, ch. 56; 1895, ch. 303; 1903, ch. 62; Pub. Stat., 1902, §§ 2292–2295, 4650.

[8] Laws, 1882, p. 18; 1905, p. 520; Ann. Civ. Stat., 1914, §§ 2942, 2943, 7354. The exemption includes persons over sixty years of age, persons who have lost a hand or foot or are otherwise disabled, the deaf, and Indians not taxed.

[9] In Indiana the blind with the deaf have been exempted from the payment of

The final form of exemption granted to the blind is that which releases them from the duty of work on the public roads, an exemption extended also to the deaf, the disabled, or other classes.[1] This is found in the States of Mississippi,[2] Oklahoma,[3] and South Carolina.[4]

Other Relations of the Law to the Blind

The relations of the law to the blind other than those involving direct or indirect material relief to them are five in number. One may be said to be concerned with further assistance to them, though not of a substantial character — the providing of aid for blind voters at the polls. Another may be considered as, on the one hand, for the advantage of the blind, and, on the other hand, as discriminatory with respect to them, this having to do with the making of wills by them, and with their acting as witnesses to such. The third is to be regarded as purely discriminatory—the imposition of a bond upon the admission into a particular State of immigrants who are blind. The two remaining relations bear upon the blind less directly, affecting rather other persons who might do them harm, though intended none the less to be of benefit to them or for their protection. In one punishment is prescribed for the doing of injury to the person of the blind; in the other the strong arm of the law is invoked for the repression of impostors, or persons able to see who pretend to be blind for the purpose of soliciting alms.

Practically all the States of the Union allow help at

both a poll tax and a tax on property up to $500, besides being discharged from road duty. Laws, 1848, ch. 76. Under a Federal enactment articles manufactured in institutions for the blind or sold for their benefit were at one time exempted from the internal revenue tax. Stat., 1866, p. 147; 1867, p. 475.

[1] It may be mentioned here that in several States the superintendent and other employees of certain public institutions, including schools for the blind, are excused from service on juries. See Comp. Laws of Florida, 1914, § 1753; West Virginia Code, 1913, § 3631. In Virginia officers of such schools were at one time exempted from both jury service and military duty. Laws, 1847, ch. 15.

[2] Code, 1857, p. 174; Ann. Code, 1917, §§ 7096, 7143.

[3] Laws, 1909, p. 491; Rev. Laws, 1910, § 7568.

[4] Laws, 1911, ch. 27; Civil Code, 1912, § 1076. The law applies only to certain counties.

the voting places to the infirm or disabled. A considerable number of them, however, have laws which expressly mention the blind as persons to whom aid in marking the ballot is permissible on the part of the election officials, or less often, on the part of any qualified person designated by the blind voter.[1] These States are Alabama,[2] Connecticut,[3] Delaware,[4] Florida,[5] Idaho,[6] Kentucky,[7] Maryland,[8] Massachusetts,[9] Mississippi,[10] Nebraska,[11] New Hampshire,[12] New Jersey,[13] New York,[14] North Dakota,[15] Oregon,[16] Rhode Island,[17] Tennessee,[18] Virginia,[19] Washington,[20] Wisconsin,[21] and Wyoming.[22]

With respect to the making of wills by the blind and with respect to their capacity to act as witnesses for such, it has very rarely seemed necessary to place special enactments upon the statute books, it being thought no doubt that the matter was sufficiently dealt with in the usual laws on the subject. In one State, however, namely, Georgia, there is express provision establishing the testamentary right of the

[1] It is the latter arrangement which the blind prefer, and in some cases have sought to effect. See *Boston Globe*, Feb. 12, 1916.

[2] Pol. Code, 1907, § 400.

[3] Laws, 1895, ch. 88; Gen. Stat., 1902, § 1595. In this State it is provided that no elector otherwise qualified to vote is to be held ineligible by reason of blindness, if he is found able to write a statute or the Constitution from dictation, or to read raised print.

[4] Rev. Stat., 1915, § 1739. Persons with "defective eyesight" are mentioned.

[5] Laws, 1895, ch. 4329; Comp. Laws, 1914, § 988.

[6] Pol. and Civ. Code, 1907, § 424.

[7] Statutes, 1915, § 1475.

[8] Laws, 1896, ch. 202; 1897, p. 590; 1901, ch. 2; Ann. Code, 1911, p. 888.

[9] Laws, 1888, chs. 4, 436; 1913, ch. 835, § 294; 1916, ch. 80; Rev. Laws, 1902, p. 160; Supp., 1908, p. 152.

[10] Ordinance Annexed to Constitution, 1890, § 14; Ann. Code, 1917, § 6807.

[11] Laws, 1897, p. 225; Rev. Laws, 1913, § 2034.

[12] Pub. Stat., 1901, p. 148.

[13] Gen. Stat., 1895, p. 1353; Laws, 1898, p. 279; Comp. Laws, 1910, p. 2104.

[14] Laws. 1896, ch. 909; Cons. Laws, 1909, p. 870.

[15] Laws, 1891, ch. 66; Comp. Laws, 1913, § 988.

[16] Laws, 1891, p. 30; Ann. Stat., 1910, § 3411.

[17] Gen. Laws, 1909, p. 111.

[18] Laws, 1890, ch. 24; Ann. Code, 1917, § 1254.

[19] Laws, 1904, p. 931; Code, 1904, § 122kk.

[20] Laws, 1890, ch. 410; Ann. Code and Stat., 1910, § 4902.

[21] Stat., 1917, § 6.39.

[22] Laws, 1895, ch. 48; Comp. Stat., 1910, § 2223.

blind.[1] In another State, on the other hand, namely, Louisiana, an adverse position is taken in regard to their being witnesses to a will, it being declared that they are "absolutely incapable" for such purpose.[2]

Full discrimination as to the blind, if it may be so denominated, has been exercised only in connection with immigration laws, where it has been feared that incoming blind persons might become public charges.[3] In Georgia it is provided that bond may be exacted of commanders of vessels or of the managers or proprietors of "theatrical, circus, or other migratory companies" who may leave within the State, as likely to be dependent upon it, blind persons, as well as persons of other classes.[4] In certain other States, which at one time were attempting individually to regulate the immigration of aliens entering by water, there have been enactments requiring report to the port authorities by the owners or commanders of vessels, in regard to blind passengers, together with other classes, and the rendering of sufficient bond to prevent them from becoming public charges.[5] These States are New York,[6] Massachusetts,[7] and Louisiana.[8] On the other hand, how-

[1] Code, 1861, § 2381; Ann. Code, 1914, § 3844. The law may apply, however, rather to persons who are both deaf and blind. Interpreters and scriveners must be duly examined.

[2] Civil Code, 1838, § 1584; Ann. Rev., 1915, § 7137.

[3] It may be noted that the present United States immigration laws make no reference to the blind as such, though a bond may be required for persons likely to become public charges.

[4] Code, 1861, § 720; Ann. Code, 1914, §§ 559–561. Also included in the law are infants, lunatics, the deaf, the maimed, and the aged or infirm.

[5] The basis of these enactments seems to have been the fear that the blind, with other classes, including the deaf and dumb, the insane, the feeble-minded, the epileptic, and the crippled, were being dumped on American shores by foreign nations. See Report of New York State Board of Charities, 1880, p. 41.

[6] Laws, 1847, ch. 195; 1849, ch. 350; 1851, ch. 523; 1866, ch. 737; 1871, ch. 475; 1881, ch. 427. The amount of the bond was $1,000. Inspectors might also be appointed to make examination, and the proprietors of ships were to be responsible for the proper care of persons detained. In this State at one time it was provided that "no pauper who has not resided at least one year next prior to application for his or her admission into any State asylum for the idiotic, blind, insane, or deaf and dumb shall be admitted as an inmate thereof." Laws, 1880, ch. 549.

[7] Laws, 1852, ch. 279; 1872, ch. 169; Pub. Stat., 1882, p. 468. The amount of the bond was $1,000.

[8] Laws, 1869, ch. 393; Rev. Stat. Laws, 1870, § 1722. The amount of the bond was $300.

ever, it may be noted that at present in New Jersey the law with respect to the bringing of dependent children into the State without the exaction of bond has been amended in favor of certain blind children coming to special homes for them.[1]

Legislation designed to be for the protection of the blind, though relating more directly to people with sight who might do them injury, is of two kinds. The first is the shielding of their persons from abuse or ill-treatment. It has probably had its inception in the belief that the blind, being in a peculiarly defenseless condition, should be rendered safe from all possible harm. The guarding of blind children is felt to be especially called for; and it is to such that existing enactments apply. In Virginia it is made a misdemeanor to abduct or kidnap, or to aid in the abduction or kidnapping of, "inmates of the deaf, dumb, and blind hospitals of the State." [2] In Wisconsin it is an offense for officers in charge of institutions for the blind and other classes to abuse, neglect, or ill-treat any of the inmates, or to allow them to be so used.[3] In Florida blind persons, together with certain other classes, are not permitted to be sent to the State reform school.[4]

The second form of statutory action of indirect character for the protection of the blind is of greater importance, its aim being the prevention of imposture under the guise of simulated blindness. It not infrequently happens that dishonest persons possessed of sight pretend to be blind in order to work upon the sympathies of the charitably inclined for their financial profit; and not always is the pub-

[1] Laws, 1912, ch. 201; Comp. Stat., Supp., 1915, p. 805. The original law forbade the bringing in of children under twelve years of age by corporations and associations unless with a bond of $1,000.

[2] Laws, 1908, ch. 61; Code, Supp., 1910, p. 728. Similar protection is afforded to inmates of hospitals for the insane. The penalty for violation is a fine of from $50 to $100, or imprisonment of from one to six months, or both such fine and imprisonment. See also Laws, 1886, p. 417; 1896, p. 673; Code, 1904, § 3680.

[3] Laws, 1872, ch. 176; 1880, ch. 265; 1911, ch. 375; Stat., 1917, § 4389. The deaf are also included. The penalty for violation is a fine of not more than $200, or imprisonment for not more than one year.

[4] Laws, 1905, ch. 5388; Comp. Laws, 1914, § 4175.

lic able to perceive the fraud being perpetrated. The matter is, however, a very serious one, amounting in fact not merely to the practicing of cheating, but to positive and grave injury to the blind.[1] In a number of States direct legal cognizance has been taken of the evil—in all since 1909—though in most other States the offense is no doubt included under some such general charge as "vagrancy," "imposture," or "false personation," and is to be punished accordingly. The States that have taken special action are Illinois,[2] Indiana,[3] Michigan,[4] Minnesota,[5] Missouri,[6] Nevada,[7] New Mexico,[8] North Dakota,[9] Ohio,[10] Washington,[11] and Wisconsin.[12] In them the impersonation of the blind, together with the deaf, the crippled, or persons otherwise physically defective, is expressly forbidden. The penalty attached to violation of the statute is usually a fine of not more than two hundred dollars, or imprisonment for not more than six months, or both such fine and imprisonment. In most cases the offense is de-

[1] On the matter of impostors representing themselves to be blind, see Proceedings of National Conference of Charities and Correction, 1899, p. 413. See also *International Journal of Surgery*, xxii., 1909, p. 282; *Ophthalmology*, ix., 1912, p. 81; *Journal of Indiana State Medical Association*, x., 1917, p. 422; *Journal of Florida Medical Association*, iii., 1917, p. 204.

[2] Laws, 1915, p. 384; Rev. Stat., 1916, p. 894. The penalty is a fine of from $10 to $200, or imprisonment for from 1 to 6 months, or both.

[3] Laws, 1915, ch. 154; Ann. Stat., Supp., 1918, § 2590e. The penalty is a fine of from $10 to $200, or imprisonment for from 1 to 6 months, or both.

[4] Laws, 1917, ch. 135. The penalty is a fine of not exceeding $100, or imprisonment for not exceeding 60 days, or both.

[5] Laws, 1909, ch. 487; 1911, ch. 257; Gen. Stat., 1913, § 9030. The penalty is a fine of not exceeding $100, or imprisonment for not exceeding 90 days, or both.

[6] Laws, 1915, p. 267. The penalty is a fine of from $10 to $200, or imprisonment for from 1 to 6 months, or both.

[7] Laws, 1915, ch. 32. The penalty is a fine of not exceeding $300, or imprisonment for not exceeding 3 months, or both.

[8] Laws, 1917, ch. 59. The penalty is a fine of not exceeding $100, or imprisonment for not exceeding 6 months, or both.

[9] Laws, 1917, ch. 64. The penalty is a fine of from $10 to $100, or imprisonment for not exceeding 6 months, or both.

[10] Laws, 1915, p. 207; Ann. Gen. Code, Supp., 1916, § 13409-1. The penalty is a fine of not exceeding $100, or imprisonment for not exceeding 6 months, or both.

[11] Laws, 1915, ch. 62; Code and Stat., 1915, § 2688-1. The offense constitutes a misdemeanor.

[12] Laws, 1917, ch. 151; Stat., 1917, § 4423d. The penalty is a fine of not exceeding $100, or imprisonment for not exceeding 90 days, or both.

cleared to be a misdemeanor, and in some is added to the offenses constituting vagrancy or imposture.[1]

Judicial Decisions Affecting the Blind

The next method of discovering the attitude of the law towards the blind, after the examination of statutory legislation, is through the pronouncements of the courts in respect to them. Judicial decisions relating to the blind appertain for the most part to two matters: the validity of the wills made by them, and the extent to which they may claim damages for injuries which they would not have received if they had not been blind. Other decisions have to do with various questions. Those concerned with schools, or with pensions, or with other particular topics in connection with work for the blind will be considered in their proper place.

Judicial Decisions Relating to the Wills of the Blind

The course of the law respecting the wills of the blind is in keeping with its usual policy, and the rules adopted are a part of the general principles applying to wills. The interests of the blind and of the state are alike held in view. The rights of the one are to be preserved, while protection is to be afforded to the other against the possibility of fraud. The courts have always been willing to accord a full hearing to the wills of the blind. There has been no demurring to their prerogatives in the matter, and no question has ever been raised as to their legal claims. As stated by the Court in one case, "the fact of the blind making wills wherever spoken of is assumed to be an undeniable fact;" and "we may safely conclude that it is settled law that mere blindness does not incapacitate a man from making a will." [2]

In nearly all States, however, there are very careful and

[1] These laws were in large part secured through the efforts of the deaf. In New York the impersonation of a deaf man constitutes vagrancy.

[2] *Ray v. Hill*, 3 Strob. (S. C.), 297, 49 Am. Dec., 647 (1848).

rigid regulations governing the execution of wills, in the making of which sight plays a most important part. In the absence of this sense an opportunity for deception is presented which the courts cannot disregard, and to which they must pay due heed. Yet to wills made by the blind there has been no averseness to extending all the consideration possible; and to defeat such, there must have been open or flagrant departure from the general rules of the law. At one time the courts were inclined to favor oral wills made by blind persons, in the belief that the danger of misrepresentation or collusion was thereby minimized, and that there was thus greater certainty of genuineness. Later, especially under the Civil Law, the courts became willing to accept written wills, insisting only upon special assurances of their having been read over before proper witnesses, and often requiring that they be signed by the witnesses in the presence of the testator and in each other's presence. Today a rather liberal attitude on the whole prevails with regard to the testamentary acts of the blind. Though on the offering of their wills for probate, there is occasion for careful scrutinizing, yet if it appears that such testaments have been sufficiently or reasonably safeguarded, and there is little if any evidence of fraud or of undue influence, the courts are generally found prepared to dispense with unnecessary formalities, and to allow their wills to stand. In fact, so ready have the courts come to be to uphold the wills of the blind that where no proof is adduced that they have not been executed in good faith, the fact that they have not been read over to the testator, or that they have not been read to him in the presence of the subscribing witnesses, may be excused.[1] Today it may be said that, pro-

[1] The will of a blind man may be allowed to stand, though not read over to him. *Clifton v. Murray*, 7 Ga., 564, 50 Am. Dec., 411 (1849). The will of a blind man need not be read over to him in the presence of attesting witnesses. *Hemphill v. Hemphill*, 13 N. C., 291, 21 Am. Dec., 331 (1830). It is sufficient if a will be read to a blind testator, and it is not necessary that it be done in the presence of witnesses. *Martin v. Mitchell*, 28 Ga., 382 (1859). The will of a blind man, duly executed and attested, and proved to have been dictated and read to him, is entitled to probate, though it has not been read to, or in the presence of, attesting witnesses. *Wampler v. Wampler*,

vided that all other essentials are complied with, and all the precautions in the circumstances have been taken, the demands of the law are satisfied when there has been a thorough understanding of the contents of the document, and there is a clear intention to make the disposition of property therein set forth.[1]

Akin to the rules laid down with respect to the making of wills by the blind are those applied to the making of contracts by them generally. The fact that a man is blind does not, in the absence of fraud, affect the validity of his legal obligations.[2]

Judicial Decisions Relating to Injuries to the Blind

The matter of injuries happening to blind persons which would not have occurred but for their blindness belongs in large measure to the law of negligence, especially as regards contributory negligence on the part of the plaintiff in a suit for damages. In the cases which have been decided upon

9 Md., 540 (1856). It has also been held that the expression in the statutes governing wills, "in the presence of the testator," is not to be taken literally as meaning within the vision of the testator. *In re Alfred's Will*, 170 N. C., 153, 86 S. E., 1047 (1915).

[1] On the making of wills by the blind, see *Davis v. Rogers*, 6 Del., 44 (1855); *Wilson v. Mitchell*, 101 Pa., 495 (1882); *Napfle's Estate (Appeal of Sharp)*, 134 Pa., 492, 19 Atl., 679 (1890); *Sehr v. Lindeman*, 153 Mo., 276, 54 S. W., 537 (1899); G. E. Gardner, "The Law of Wills," 1903, p. 91; J. R. Rood, "Treatise on the Law of Wills," 1904, §§ 114, 174, 276, 305, 344; W. P. Borland, "The Law of Wills and the Administration of Estates," ed. 1915, pp. 56, 59, 119, 239; James Schouler, "The Law of Wills, Executors, and Administrators," ed. 1915, pp. 107, 384, 425. For an instance of a holographic will, see *State v. Martin*, 2 La. Ann., 667 (1847). A will is valid when the signature of a blind testator is affixed by another at his request. *In re Pickett's Will*, 49 Ore., 127, 89 Pac., 377 (1907). On the other hand, it has been held that where a blind man orders a will to be destroyed and believes that this has been done, though such is not actually the case, a revocation or cancellation cannot be deemed to have been effected within the statute. *Boyd v. Cook*, 30 Va., 33 (1831). Where a testator who was very old and nearly blind called for his will, but was given an old letter, which, believing it to be his will, he destroyed, a revocation was not regarded as having taken place. *Pryor v. Coggin*, 17 Ga., 444 (1855). Where a blind person directed that a will be thrown into the fire, but another paper was so disposed of, there was no real revocation. *Kent v. Mahaffey*, 10 Ohio, 204 (1859). Where a testator is old, feeble, and nearly blind, and there is doubt as to his testamentary capacity and as to the proper execution of the will, probate may be denied. *In re Liddington's Will*, 51 Hun, 638, 4 N. Y. Supp., 646 (1889).

[2] *Guerra v. Rocco*, 181 Ill. App., 528 (1913); L. F. Hammon, "General Principles of the Law of Contracts," 1902, p. 99.

the subject, the opinions of the courts seem to be divided. Some lean to the view that no recovery can be had by a blind person unless there has been gross negligence on the part of the defendant. By them extreme care and diligence are expected of the blind when going about. Some courts, and perhaps the larger number, on the other hand, will not take too strong a stand against the blind man, especially if the accident were due primarily to the fault of the defendant, even though a person in the full possession of the sense of sight would have escaped injury. Very often the matter is regarded as a question of fact for the jury, it having to determine to what extent the blind person is chargeable with contributory negligence, or is free from fault, and being governed by consideration of all the attendant circumstances.

The decisions found have mainly to do with three forms of accidents, namely, those occurring on obstructed public thoroughfares, those occurring at railway crossings, and those occurring on railway cars or trains. In cases in connection with the use of highways and sidewalks upon which blind persons have proceeded, and upon which, because of some defect therein apparent to one with sight, they have met with disaster, the predominant view is that they have a full right to be upon such places, and if these happen to be in a bad condition, the blame rests with the public authorities, or with those who are directly responsible. A blind man may thus not, because of alleged contributory negligence on his part, lose his right of recovery for the injuries which he has sustained. This attitude may even extend to cases where if the blind man had himself exercised sufficient care, he would not have incurred the mishap. The courts consider that one has the right to assume that the public thoroughfares of his neighborhood are safe for travel and may act on that assumption. In other words, in point of law it is not negligence on the part of a blind person to traverse public ways without escort. In the language of one decision, "it cannot be laid down as a universal rule

that it is negligence for a blind man to walk the streets . . . unattended." [1] By another Court it is declared that "sidewalks are made for the lame, the halt, and the blind, as well as for persons in the full possession of their faculties." [2] As stated in a third decision:

> It cannot be held as a matter of law that the plaintiff, because of his blindness, was, in going upon the streets and walks, deprived of the protection afforded to other citizens. Having no knowledge to the contrary, he had the right to assume that the streets and walks were in safe condition for the passage of pedestrians.[3]

[1] *Smith v. Wildes*, 143 Mass., 556, 10 N. E., 446 (1887). A blind man was injured by falling into a trap door on a sidewalk of a much frequented street in front of the defendant's premises, no guard being provided, and no warning given. The question of negligence was considered to be one for the jury.

[2] *Yeager v. Town of Spirit Lake*, 117 Iowa, 593, 88 N. W., 1095 (1902). A blind woman sixty-nine years of age was injured by falling on a sidewalk, the only one in her course, which was old and decayed, but the seriousness of the defects of which she did not know. Almost identical words were expressed in a later decision in the same State, where a blind person fell into an unguarded ditch of a city water main. *Balcom v. City of Independence*, 178 Iowa, 685, 160 N. W., 305, 14 N. C. C. A., 391 (1916).

[3] *Carter v. City of Nunda*, 55 App. D., 501, 66 N. Y. Supp., 1059 (1900). A blind man, fifty-two years of age, accustomed to going about alone, was injured by a plank in a sidewalk tripping up. Similar views are taken in other cases. A blind man walking on the sidewalks of a city need not exercise greater care than others, though in most matters he must do so; and if he is injured by defects therein, the city is liable. *Hill v. City of Glenwood*, 124 Iowa. 479, 100 N. W., 522 (1904). It is not negligence *per se* for a person with defective sight to go about the streets of a city; and in case such are out of repair, it is for the jury to decide whether there has been contributory negligence on his part. *Davenport v. Ruckman*, 37 N. Y., 568 (1868). A person with defective sight has the right, notwithstanding, to travel about on the public throughfares, provided that he uses reasonable care in the circumstances. *Peach v. City of Utica*, 10 Hun. (N. Y.), 477 (1877). Where a blind man traveling along a road on a dark night and unable to be seen, heard a team coming at some distance and in an unknown direction, and, being ignorant of the condition of the highway, but supposing it to be safe for his movements, left it because of the danger which he feared, and suffered injuries in consequence, he was absolved from the charge of contributory negligence, he having the right to assume that the road was safe. *Glidden v. Town of Reading*, 38 Vt., 52, 88 Am. Dec., 639 (1865). Where a ditch was left open in the street of a city by workmen and a red light put by it, and later a blind man stumbled into it, he was held not to be personally negligent, despite the fact that he was unattended, and had failed to use his staff as he proceeded on his way. *Fay v. City of Winston*, 126 N. C., 281, 35 S. E., 609 (1900). Where a blind man accustomed to walking about alone stepped off the side of a bridge, with which he was familiar, and the railing of which was lately missing, it was held to be a question for the jury whether he was guilty of contributory negligence in attempting to cross without a guide. *Sleeper v. Sandown*, 52 N. H., 244 (1872). A blind person on a poor farm who was struck by the tongue of a wagon, was held not to be negligent in going about, due care only being required on his part. *Neff v. Town*

Similarly, action may lie against persons who use public ways in such negligent manner as to cause injury to the blind.[1] In a minority of decisions a more stringent rule is adopted, and a blind person may be required to show affirmatively that he has exercised due care, and that the accident complained of was in no wise owing to his own want thereof.[2]

of Wellesley, 148 Mass., 487, 20 N. E., 111 (1887). Where a person eighty-two years of age and with defective sight was injured when the horse which he was driving took fright at the noise of steam escaping from a hoisting engine operating on a street, he was held to be guilty of no contributory negligence. *Ham v. City of Lewiston*, 94 Me., 265, 47 Atl., 548 (1900). Where a woman with very defective sight was hurrying to take a car, and stumbled over a pile of planks not usually so placed and was injured, the railway company was liable, it not having exercised the care to be expected of it. *Keith v. Worcester & B. V. St. Ry. Co.*, 196 Mass., 478, 82 N. E., 680, 14 L. R. A. (n. s.), 648 (1907). See also *Wedderburn v. City of Detroit*, 144 Mich., 684, 108 N. W., 102 (1906).

[1] A person almost blind walking on a public highway and struck by an automobile which was on the wrong side of the road and was going at a high rate of speed, and which he attempted to avoid by jumping, may be held only to the exercise of reasonable care, in view of all the circumstances. *Apperson v. Lazro*, 44 Ind. App., 186, 87 N. E., 97, 88 N. E., 99 (1909). Where a blind person familiar with the streets of a city was crossing one, and was struck by an automobile, which was on the wrong side and was going at a very rapid rate, and which gave no warning, recovery was allowed for the injuries received, as it had been possible to discover that the man was blind and had become disconcerted in his movements. *McLoughlin v. Griffin*, 155 Iowa, 302, 135 N. W., 1107 (1912). Where a person blind in one eye, very old, and with defective hearing was injured by a car while driving a wagon diagonally across a street car track, it was held that he had not been negligent in thus traveling upon a public way unattended, or in failing to look and listen, when the cars did not have the exclusive right of way. *Robbins v. Springfield St. Ry. Co.*, 165 Mass., 30, 42 N. E., 334 (1895). See also *Harris v. Uebelhoer*, 75 N. Y., 169 (1878); *Marshall & E. T. Ry. Co. v. Petty*, 107 Tex., 387, 180 S. W., 105 (1915).

[2] Such was the principle adopted where a blind man fell into an open water drain, of the existence of which he had full knowledge. *Stewart v. City of Nashville*, 96 Tenn., 50, 33 S. W., 613 (1896). Where a person with defective sight was injured by falling into a cellar lying near a defective sidewalk, it was held that, though his action in going about was not in itself to be regarded as contributory negligence, yet as only one opening had been left exposed, which could have been seen by a person with sight, the city was not liable for damages, it not being an insurer of its streets, and its criminal negligence not being shown affirmatively. *City of Franklin v. Harter*, 127 Ind., 446, 26 N. E., 882 (1890). In a case where the facts were similar, it was held that the mere fact of blindness was not evidence of negligence, but that with all the circumstances taken together, it was to be regarded as contributory negligence. *Town of Salem v. Goller*, 76 Ind., 291 (1881). A city is not negligent in permitting the existence of a stairway leading to a basement alongside a sidewalk, into which a man almost blind fell, when there is a railing on one side, and there is plenty of room on the sidewalk on which to walk. *Edwards v. City of Raleigh*, 150 N. C., 276, 63 S. E., 1040 (1909). Where an old man with defective sight fell off the edge of a sidewalk, the protecting railing of which was missing, it was held that he was guilty of contributory negligence, inasmuch as, though using all care and feeling his way about, he was conscious of the danger. *Garbanati v. City of Durango*, 30 Col., 358, 70 Pac., 686 (1902). Where a person with defective vision was driving over a

In the matter of accidents occurring to the blind at places known to be dangerous, particularly at railway crossings or on railway tracks, the prevailing doctrine is to hold them to strict accountability for what may befall them in frequenting such places. If they elect to incur the risks, and are lax in displaying all the caution which the circumstances demand, they are left to the consequences of their acts, and an effectual bar to recovery is usually set up. No special solicitude is required of those in charge of the operation of trains or cars; and no blame can attach to them unless there happens to be knowledge of the infirmity of the injured party.[1] In judicial decisions where a view more lenient to

county bridge and struck a pile of planks, which had been carefully piled to one side, and which in the circumstances were properly there, the county was absolved from the charge of negligence, while he was considered to be guilty of contributory negligence. *Karl v. Juniata County*, 206 Pa., 633, 56 Atl., 78 (1903). A person with poor sight is required to exercise special care in his movements, even though a plank over a space for the passage of water, from which he falls, is itself defective. *Winn v. City of Lowell*, 83 Mass., 177 (1861). It is not for the court to say whether a person blind in one eye has exercised due care in crossing a pile of snow and ice deposited in the street. *Gilbert v. City of Boston*, 139 Mass., 313, 31 N. E., 234 (1885). A blind man who in crossing a street stops when he hears some one calling, and is struck by a passing car, may not recover. *Webb v. Chicago City Ry. Co.*, 83 Ill. App., 565 (1899). Where a person almost blind engaged in selling newspapers turned by mistake from the street into a private entrance, and fell into an open hatchway, the owners were held not to be guilty of negligence, as they were not bound to provide for the unintended use of their property, and the injured person was not really an invitee. *Oystherbank v. Gardner*, 49 N. Y. Super., 263 (1883). A person with defective vision is to be held responsible for injuries caused by him while driving an automobile. *Campbell v. Walker*, 24 Del., 580, 76 Atl., 475 (1910).

[1] Where it appeared that a blind man was injured at a railroad crossing, the intersection of several lines, it was held that, though he had the right to frequent railways and other public crossings, he was bound to exercise all the diligence that the case required, and that when the danger was very great, he was grossly negligent and assumed all risks. *Florida C. & P. R. Co. v. Williams*, 37 Fla., 406, 20 So., 558 (1896). Where a blind man changing from one street car to another was given a transfer, and was told by the conductor that the road was clear, and, no particular effort being made by himself to listen, was struck by a car, his conduct was held to amount to contributory negligence, despite the original negligence of the conductor. *Wilson v. Detroit United Ry.*, 167 Mich., 762, 132 N. W., 107 (1911). A person with seriously impaired vision who on alighting from one train is struck by another on a parallel track, which could have been heard at a great distance, is chargeable with contributory negligence. *Gonzales v. New York & H. R. Co.*, 33 N. Y. Super., 57 (1871). See also 29 N. Y. Super., 93, 38 N. Y., 440, 98 Am. Dec., 58. A person blind in one eye should exercise especial care in crossing a railway track even though a flagman has signalled him to do so. *Fusili v. Missouri Pacific Ry. Co.*, 45 Mo. App., 535 (1891). A person blind in one eye is negligent in crossing a track when a train in full view and only a short distance away is signalled to back, even though the crew of the train are remiss in their duty. *Marks v. Petersburg R. Co.*, 88 Va., 1, 15

the blind is taken, a distinction is drawn between cases where the contributory negligence on their part is the proximate cause of the accident and cases in which such negligence may be regarded as the remote cause. In the latter instance the blind man is looked upon as not being principally at fault, and hence is entitled to recover.[1]

In respect to the treatment to be accorded to blind persons when they are accepted for transportation by common carriers, a view generally favorable to them is adopted. More than ordinary care and attention must be extended to such passengers, including due assistance to them while boarding or alighting from trains, when their condition has been made known—in fact, all the care and attention that the circumstances of the case call for.[2] So strongly is this

Va. L. R., 501, 13 S. E., 299 (1891). An old person blind in one eye and with defective hearing, seeing two trains pass, and not looking for another, by which he is struck, cannot recover. *McKinney v. Chicago & N. W. Ry. Co.*, 87 Wis., 282, 58 N. W., 386, 59 N. W., 499 (1894). Where a person with defective sight and hearing was walking on a railroad track, and was struck by a train, which had sounded its whistle and bell, but was unable to stop in time, the latter was held not to be responsible unless it had knowledge of the person's condition. *Candee v. Kansas City & Independence R. T. Ry. Co.*, 130 Mo., 142, 31 S. W., 1029 (1895). Where a person with defective sight and hearing was walking on a railway trestle, and was struck and killed by a train, he was regarded as having been guilty of contributory negligence. *Maloy v. Wabash, St. L. & P. Ry. Co.*, 84 Mo., 271 (1884). See also *Ransier v. Minneapolis & St. Louis Ry. Co.*, 30 Minn., 215, 14 N. W., 883 (1886); *Irvin v. Brooklyn Heights R. Co.*, 59 App. D., 95, 69 N. Y. Supp., 80 (1901); *Southern Ry. Co. v. Neal*, 164 Ky., 121, 175 S. W., 14 (1915).

[1] Where a blind man, seated in a wagon and leading a horse from behind, was crossing a railroad track, upon which the horse took fright and pulled back, throwing him out, and allowing him to be run over by an approaching hand car, it was held that there was no contributory negligence, inasmuch as the occurrence was an extraordinary one and one not to be contemplated, while the hand car had failed to have proper brakes upon it. *Johnson v. Gulf, C. & F. S. Ry. Co.*, 2 Tex. Civ. App., 139, 21 S. W., 274 (1893). Where a person, aged and with poor eyesight, stepped in front of a backing locomotive, which failed to ring its bell or to whistle, as required by law, and was struck and killed, it was held that the railway was responsible. *Rosenthal v. Chicago & A. R. Co.*, 255 Ill., 552, 99 N. E., 672; affirming 164 Ill. App., 221 (1912). Where on a cloudy day a person with very bad sight was crossing a track, on which a train had just passed, sending out much smoke, and was struck by another going very fast, and which failed to ring its bell or to whistle, he was held, as a matter of law, not to have been guilty of any contributory negligence. *Lotz v. New York Central & H. R. R. Co.*, 7 App. D., 515, 40 N. Y. Supp., 253 (1899).

[2] A blind passenger, who after having told a porter of his blindness and asked assistance, fell from the end of a car, had the right to believe that the directions given him were correct, and that his movements would be guided. *Denver & R. G. Ry. Co. v. Derry*, 47 Col., 584, 108 Pac., 172, 27 L. R. A., 761 (1910). Where a railway company was aware that a prospective passenger was blind, but received him notwith-

principle held that the question has arisen whether carriers are bound to receive blind persons as passengers if without escort. Their traveling is believed to be attended with such risks that a railway company may be considered to be justified in refusing to sell them transportation unless in accompaniment of a person with sight, especially when a change of cars has to be made during the journey.[1] It may be left for the jury to decide whether or not, in the circumstances, and particularly in view of previous traveling on their part, they may be regarded as competent to make the trip alone, in which event it is incumbent upon them to produce evidence to such effect.[2]

standing, it was obligated to consider the fact of his blindness in giving him sufficient time to board a train. *Indianapolis Southern Ry. Co. v. Wall*, 54 Ind. App., 43, 101 N. E., 680, 4 N. C. C. A., 532 (1913). Where a brakeman who had been informed of the condition of a blind passenger left him on the platform, instead of leading him to a seat, and he was thrown to the ground when the train started, the railway was held to be responsible. *Hanks v. Chicago & A. Ry. Co.*, 60 Mo. App., 274 (1895). Where a conductor who had promised to assist a blind passenger to alight, failed to do so, and a fellow passenger who offered aid was compelled to go a roundabout way to an exit, by which the blind person fell and sustained injury, the fellow passenger omitting to give warning of the danger, the railway was held responsible, the action of the fellow passenger not being the proximate cause. *Georgia Railroad & Banking Co. v. Rives*, 137 Ga., 376, 73 S. E., 645, 38 L. R. A. (n. s.), 564, 2 N. C. C. A., 174 (1912). Where a carrier was notified that a passenger was almost blind, but failed to tell her when her destination was reached, and allowed her to attempt to alight without assistance, it was held to be a question for the jury whether the passenger was guilty of contributory negligence. *Layne v. Chicago & A. R. Co.*, 175 Mo. App., 34, 157 S. W., 850 (1913). It has also been held that a blind person killed as the result of a railway collision is not to be regarded as guilty of contributory negligence, since the fact of his blindness was not the proximate cause of the accident, even though the possession of sight would have enabled him to escape. *St. Louis, I. M. & S. Ry. Co. v. Maddry*, 57 Ark., 306, 21 S. W., 472 (1893). But, on the other hand, in a case where a passenger with only partly defective vision who was able to find her way down the aisle of the car alone, was not given sufficient time to alight, and was carried beyond her station, she making no effort to assist herself, and not being in fact misled, no recovery was allowed, even though the conductor had promised to give aid. *Southern Ry. Co. v. Hobbs*, 118 Ga., 227, 45 S. E., 23, 63 L. R. A., 68, 14 Am. Neg. Rep., 523 (1903). A person partially blind who is injured in getting off a train at a certain place, not being told that it was the place to alight, cannot recover. *Vivian v. San Antonio, U. & G. R.*, (Tex. C. C. A.) 196 S. W., 267 (1917). See also 180 S. W., 653.

[1] *Illinois Central R. Co. v. Allen*, 28 Ky. Law Rep., 108, 89 S. W., 150 (1905).

[2] The refusal of a railway to receive a blind man as a passenger because of his blindness is a wrongful act unless there is proof *aliter* that he is unable to travel alone. *Zackery v. Mobile & O. Ry. Co.*, 74 Miss., 520, 21 So., 246, 60 Am. St. Rep., 522, 36 L. R. A., 546, 6 Am. & Eng. Ry. Cas., 267 (1897). See also 75 Miss., 746, 23 So., 434, 65 Am. St. Rep., 617, 41 L. R. A., 385 (1898). The reasoning of the Court has been thus given: "Primarily the affliction of blindness unfits every person for travel

Other Judicial Decisions Relating to the Blind

The remaining judicial decisions relating to the blind are of a miscellaneous character, each found in a single instance. One is concerned with the definition of blindness, according to which a particular person would be enabled to come within the exemption in the law regarding the payment of a poll tax, the person in this case being held not to be actually blind.[1] In another the question is upon whether certain acts of a public officer are invalid because of his want of sight, the view of the court being that such infirmity does not render one incapable of the proper discharge of his duties.[2] In a third the issue is in regard to whether a stat-

by railway, if unaccompanied No blind person without previous experience could possibly accommodate himself to the many exigencies incident to travel by railroad, or guard himself against peril in boarding or alighting from trains, changing from one train to another, or threading his way in safety across the railway tracks at crowded stations. Hence the rule which provides that every blind person is presumed to be, in the absence of proof of experience, unfit to travel alone, is not unreasonable. Nor . . . [is] such a regulation a hardship upon the persons afflicted with blindness or other disabling physical infirmity. It is rather a safeguard thrown around them for their own protection. Therefore, when a blind person appears to purchase a ticket, being himself unknown to the agent, and that ticket is refused, the carrier is not liable by this act to be mulcted in damages, but . . . if the agent knows of his personal knowledge of the competency to travel of the person, or if the fact of such ability is made known to him in any manner, and he still persists wantonly and arbitrarily to sell the person desiring passage a ticket, the carrier may be made to respond in damages for his offensive act. And it is the duty of the agent of the carrier to listen to the explanation of the person desiring to purchase a ticket, and judge of his competency in the light of the facts then made known to him, and the question of the reasonableness or unreasonableness of his refusal is one of fact to be submitted to the jury." *Illinois Central Ry. Co. v. Smith*, 85 Miss., 340, 37 So., 643, 107 Am. St. Rep., 293, 70 L. R. A., 642 (1907). On the matter of accidents to the blind, see also T. G. Shearman and A. A. Redfield, "Treatise on the Law of Negligence," ed. 1913, §§ 88, 375, 481; Robert Hutchinson, "Treatise on the Law of Carriers," 1906, §§ 967, 993, 1231; T. J. Michie, "Treatise on the Law of Carriers," 1915, p. 2121; Norman Fetter, "Treatise on the Law of Carriers of Passengers," 1897, pp. 464, 635; D. C. Moore, "Treatise on the Law of Carriers," 1917, pp. 1140, 1250, 1594; A. J. Nellis, "The Law of Street Railways," 1911, § 430; H. J. Booth, "Treatise on the Law of Street Railways," ed. 1911, § 386; Am. & Eng. Enc. of Law, 1898, vii., p. 442; Cyclopedia of Law, 1908, xxxix., p. 533; *Corpus Juris*, 1917, x., p. 646.

[1] The person alleging himself to be blind was able to see sufficiently to carry on his business, and was therefore not to be classed as blind. *McCormick v. Jester*, 53 Tex. Civ. App., 306, 115 S. W., 278 (1908).

[2] The fact that a county commissioner who aided in the drawing of a grand jury was blind, was held not to render the indictment drawn by it void, when it appeared that such commissioner was otherwise capable of performing his duties. *Eureka County Habeas Corpus Cases*, 35 Nev., 80, 126 Pac., 655 (1912).

ute providing for the appointment of guardians for certain classes of the population applies equally to the blind, who are not mentioned by name, the opinion being a negative one.[1] The final matter calling for judicial attention is as to whether the blind are to be held accountable in law for their misdeeds. In this there is no disinclination to declare that they are fully so; for, says the Court, if it should be admitted that they are not on a parity with the rest of the community in this regard, "the blind would ordinarily be wholly exempt from punishment for the violation of any penal statute."[2]

[1] The statute referring to the deaf and dumb, the feeble-minded, and other classes under certain conditions, has no application to the blind solely because of their blindness, and in consequence there is no authority in law for the appointment of guardians for them. *Griffin v. Collins*, 122 Ga., 102, 49 S. E., 827 (1905).

[2] A blind person was under indictment for the illegal selling of intoxicating liquor, and it was claimed that he was not on a parity with other witnesses, in not being able to procure evidence as they. *Bishop v. State*, 18 Ga. App., 714, 90 S. E., 369 (1916). It may be added here that criminal offenses against blind persons are usually considered to be of an aggravated nature.

CHAPTER III

ECONOMIC CONDITION OF THE BLIND

Extent to Which the Blind Are Wage-earners

The next matter to be examined in connection with the condition of the blind is that of their economic standing. In the want of the sense of sight a person is deprived of such an important physical faculty that at the outset arises the question whether it will be possible for him to be a factor in the industrial life of the community. In the vast number of the occupations of men vision constitutes such an indispensable qualification that to those persons bereft of it a more or less effectual bar is imposed upon entry into them, most being closed altogether. Thus many vocations the blind man finds himself necessarily precluded entirely from pursuing, while in the remainder he discovers the field so narrowly circumscribed that but the slightest opening is afforded him. In other words, blindness, if not totally disabling for gainful occupations those whom it afflicts, lays upon them such a heavy hand that the range found left is exceedingly contracted. In consequence of all this the earning power of the blind becomes very limited, and their task of securing remunerative employment which will support them proves an extremely difficult one, if not indeed an insuperable one. If as a result they fail, in whole or in part, to meet the requirements for the successful carrying on of business or industry, they must turn to other sources for their sustenance.

Such is the essential situation which confronts the blind portion of the community. How far in actual practice they are found able to enter the ranks of the wage-earners of the country, and to become a self-sustaining part of the

population, or in lieu thereof, to what means they must look for their support—this we are now to consider.

On first examination, it appears that a certain number of the blind are industrially employed, being thus regular wage-earners. Despite their affliction, these do engage in industrial tasks, and are able to a greater or less extent to provide for themselves. According to the returns of the United States census for 1910,[1] of the 55,473 blind persons over ten years of age, 9,321, or 16 8 per cent—about one in six—are gainfully employed.[2] Of this number, 7,976, or 85.6 per cent, are males, and 1,345, or 14.4 per cent, females. The proportion of the general population of the same age so reported is 53.3 per cent, or a little more than three times as great. The proportion of blind males gainfully employed is about one-fourth, or 25.3 per cent, while that of males in the general population is 81.3 per cent, the latter thus being also over three times as great. The percentage for blind females is 5.6, and that for females in the general population 23.4, making the latter over four times as great.

In the following table are shown the percentages of the blind and of the general population, with males and females also listed separately, as found in the several broad classes of occupations.[3]

Occupations of the Blind and of the General Population

	Blind			General Population		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, and animal husbandry	26.9	28.6	17.4	33.2	36.1	22.4
Extraction of minerals	0.9	1.1	....	2.5	3.2	.....
Manufacturing and mechanical industries	24.6	23.9	28.9	27.9	29.4	22.5
Transportation	2.1	2.4	0.9	6.9	8.4	1.3
Trade	18.1	20.0	6.2	9.5	10.5	5.8
Public service	0.4	0.4	0.2	1.2	1.5	0.2
Professional service	13.8	12.8	19.3	4.4	3.1	9.1
Domestic and personal service	7.9	5.3	24.1	9.9	4.1	31.3
Miscellaneous	5.3	5.5	3.0	4.5	3.7	7.4

[1] "The Blind in the United States," 1917, pp. 61–66, 141–151, 175, 176, 246–257; "The Blind Population of the United States," 1915, pp. 35–38, 51, 52.

[2] In the special schedules for the blind the proportion is practically the same.

[3] Bureau of the Census, Reports, 1914, iv., p. 30. See also Special Reports, "The Blind and the Deaf," 1906, pp. 18, 51–53.

It thus appears that, in relation to their entire number who are gainfully employed, the blind are occupied more extensively in trade and in professional service than is the general population. In professional service the proportion is over three times as great, and in trade it is nearly twice as great. The high percentage of the blind in the former occupation is probably in the main to be accounted for by the very considerable number of musicians and teachers of music embraced therein, and in the latter by the possible belief that the loss of sight offers less of a handicap than in other pursuits. In the remaining occupations the blind are relatively less widely represented. In transportation the proportion of the general population is over three times as great. In public service and in the extraction of minerals the difference is about the same. In agriculture and kindred occupations, in manufacturing and mechanical industries, and in domestic and personal service the proportion of the general population is not considerably in excess of that of the blind, though it may be that the enumeration of a number of the blind in these occupations, especially in agriculture, had reference rather to their employment before the occurrence of the loss of sight. In the occupations grouped as "miscellaneous" the proportion for the blind is slightly larger than for the general population.

Considered in regard to the blind alone, it is seen from the foregoing table that over four-fifths (83.4 per cent) of those gainfully employed are in agriculture and kindred occupations, manufacturing and mechanical industries, trade, and professional service—the proportion for males being 85.3 per cent, and for females 71.8 per cent. A little more than one-fourth (26.9 per cent) are reported in agriculture and kindred occupations, or 28.6 per cent of males and 17.4 per cent of females; and a little less than one-fourth (24.6 per cent), in manufacturing and mechanical industries, or 23.9 per cent of males and 28.9 per cent of females. In these two occupations more than one-half (51.5 per cent) of the blind are found, or 52.5 per cent of males and 46.3

per cent of females. Nearly one-fifth (18.1 per cent) are in trade, or 20.0 per cent of males and 6.2 per cent of females; and slightly more than one-eighth (13.8 per cent), in professional service, or 12.8 per cent of males and 19.3 per cent of females. In domestic and personal service there are a little less than one-twelfth (7.9 per cent), or 5.3 per cent of males and 24.1 per cent of females. In transportation the proportion is 2.1 per cent, or 2.4 per cent of males and 0.9 per cent of females; in extraction of minerals, 0.9 per cent, or 1.1 per cent for males; and in public service, 0.4 per cent, or 0.4 per cent of males and 0.2 per cent of females. In miscellaneous occupations are 5.3 per cent, or 5.5 per cent of males and 3.0 per cent of females.

The several specific occupations in which the male and the female blind over ten years of age are found to be engaged, with the number and percentage for each, are shown in the following table.

SPECIFIC OCCUPATIONS OF THE BLIND

	MALE		FEMALE	
	Number	*Per cent*	*Number*	*Per cent*
Total	7,976	100.0	1,345	100.0
In agriculture, forestry, animal husbandry, and fisheries	2,275	28.6	234	17.4
Farmers (including dairy farmers)	1,768	22.2	127	9.4
Truck farmers, fruit growers, florists, etc	55	0.7	5	0.4
Agricultural laborers	339	4.3	92	6.8
Stock raisers and herders	40	0.5	....	.....
Poultry raisers	39	0.5	5	0.4
All others	34	0.4	5	0.4
In extraction of minerals	87	1.1	....	.....
In manufacturing and mechanical pursuits and building and hand trades	1,906	23.9	389	28.9
Shoemakers and cobblers (not in factories)	22	0.3	....	.....
Basket makers	50	0.6	17	1.3
Chair caners	242	3.0	43	3.2
Other woodworkers	39	0.5	1	0.1
Operatives in printing and publishing establishments	13	0.2	5	0.4
Carpet and rug makers (not in factories)	30	0.4	10	0.8
Hammock and net makers (not in factories)	18	0.2	5	0.4
Knitters (not in factories)	....	.....	102	7.6
Fancy workers (not in factories)	6	0.1	86	6.4
Weavers, not otherwise specified (not in factories)	19	0.2	18	1.8
Other textile workers	16	0.2	10	0.3
Seamstresses	....	.....	28	2.1
Broom makers	665	8.3	11	0.8
Mattress makers	45	0.6	6	0.5
Piano tuners	349	4.4	3	0.2
Tobacco workers	23	0.3	5	0.4
Laborers	53	0.7	....	.....
Manufacturers and officials, contractors and builders, etc	46	0.6	....	.....
All others	270	3.4	39	2.9

SPECIFIC OCCUPATIONS OF THE BLIND—*Continued*

	MALE		FEMALE	
	Number	*Per cent*	*Number*	*Per cent*
In transportation	188	2.4	13	0.9
Drivers and teamsters	53	0.7	....	.....
Telephone operators	24	0.3	9	0.8
All others	111	1.4	4	0.3
In trade	1,609	20.0	83	6.2
Bankers, brokers, commission merchants, money lenders, etc	22	0.3	....	.....
Real estate and insurance agents	77	1.0	1	0.1
Hucksters and peddlers	401	5.0	14	1.0
Retail merchants and dealers (other than hucksters and peddlers)	619	7.8	18	1.3
News dealers	55	0.7	2	0.2
Cigar and tobacco dealers	69	0.9	....	.....
General storekeepers	69	0.9	1	0.1
Dealers in music and musical instruments	29	0.4	....	....
Grocers	119	1.5	5	0.4
Other retail merchants and dealers	278	3.5	10	0.8
Salesmen, saleswomen, and clerks (in stores)	92	1.2	9	0.8
Canvassers and agents (other than real estate and insurance)	195	2.4	36	2.7
Newspaper carriers and newsboys	98	1.2	1	0.1
All others	105	1.3	4	0.3
In service	1,535	19.3	602	44.8
Public service	33	0.4	2	0.2
Professional service	1,023	12.8	260	19.3
Authors, editors, journalists, reporters, and other writers	25	0.3	12	0.9
Clergymen and other religious workers	170	2.1	6	0.5
Lawyers	31	0.4	....	.....
Musicians and teachers of music	646	8.1	167	12.4
Physicians and surgeons	28	0.4	5	0.4
Professors, school principals, and teachers	62	0.8	56	4.2
Professional entertainers	20	0.2	3	0.2
All others	41	0.5	11	0.9
Domestic and personal service	418	5.3	324	24.1
Boarding and lodging house keepers	31	0.4	33	2.5
Hotel, restaurant, and lunch-room keepers	45	0.6	8	0.7
Janitors	21	0.3	2	0.1
Launderers and laundresses (not in laundries)	35	0.4	109	8.1
Nurses	7	0.1	21	1.6
Saloon keepers and bartenders	12	0.2	....	.....
Servants and waiters	59	0.8	120	8.9
Wood sawyers and woodchoppers	178	2.2	....	.....
All others	30	0.4	31	2.3
All other service	61	0.8	16	1.2
Organ grinders	17	0.2	1	0.1
All others	44	0.6	15	1.1
In miscellaneous and unclassifiable occupations	376	4.7	24	1.8
Laborers (not otherwise specified)	319	4.0	8	0.7
All others	57	0.7	16	1.2

On the face of these returns, the blind appear to be engaged in a variety of occupations, in a few of which they may be said to be fairly well represented.[1] On closer anal-

[1] On occupations of the blind, see also the census returns for 1900, Special Reports of Census Office, "The Blind and the Deaf," 1906, pp. 17, 18, 51–61. In an investigation by the American Association of Instructors of the Blind in 1878, it was found that there were 16 superintendents of schools for the blind; 216 teachers or helpers in schools for the blind; 34 ministers of the Gospel; 84 authors, publishers, or

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ysis, however, their field of employment is found to be a very constricted one. Except only in certain lines, the range is seen to be small; while some industries are scarcely at all comprehended. Even whatever favorable showing is made is tempered by several circumstances. It is possible, in the first place, that a not inappreciable proportion of those listed in particular occupations are really border line cases, there being a remnant of sight possessed, which has proved of no slight help. It may next be assumed that a number of those recorded have remained in the same occupations in which they were engaged at the time that they became blind, it having proved feasible to continue thereat by their own efforts, together with the assistance of their families and friends. Perhaps a more important consideration lies in the likelihood that many were enumerated as in a given activity when in fact this was the one followed before the oncoming of the affliction, and which has subsequently been practically if not entirely given up.[1] Finally, only a part, probably much the smaller part, of the blind reported as industrially engaged are to be regarded as earning their own livelihood, the occupations of a very considerable number being hardly more than nominal—a matter to which we are later to give attention.

Of the male blind listed in the foregoing table as in occupations, over three-fourths (76.2 per cent) are found in fourteen particular ones, each having at least two hundred

lecturers; 310 music teachers or vocalists; 69 organists; 125 piano tuners; 937 workers or employees in handicrafts; 277 storekeepers, etc.; 45 owners or managers of real estate; 760 persons engaged in housework, or at home, with sewing machines, plain sewing, etc. (most being women); and 78 in homes of employment. See Proceedings, 1878, p. 20; 1879, p. 29; Report of Ohio School, 1878, p. 14; New York Institute, 1879, p. 22; *Chautauquan*, xv., 1892, p. 65; E. E. Allen, "Education of Defectives," in "Education in the United States," 1900. See also W. G. Holmes, "Successful Blind Persons in America," 1919; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 28.

[1] This is made evident from the special schedules returned in respect to the census for 1910. In these the proportion of the blind gainfully employed was generally 1 or 2 per cent lower than in the original returns, the only exceptions being in the case of white females, who had a slightly higher proportion because of a greater number being set down as engaged in knitting and fancy work. See "The Blind in the United States," 1917, pp. 61, 141; "The Blind Population of the United States," 1915, p. 35.

persons, or 1.2 per cent of the total. These are the occupations of farmers (including dairy farmers), broom makers, musicians and teachers of music, retail merchants and dealers (other than hucksters and peddlers), hucksters and peddlers, piano tuners, agricultural laborers, laborers not otherwise specified, chair caners, canvassers and agents (other than real estate and insurance), wood sawyers and woodchoppers, clergymen and other religious workers, newspaper carriers and newsboys, and salesmen and clerks (in stores). The largest number in any single specific occupation are engaged in farming, which claims a little over one-fifth (22.2 per cent) of the blind reported. This is probably due to two things. First, farmers represent the largest class numerically in the population as a whole, and it is but natural that a high proportion should likewise be found among the blind, disorders affecting the sight being as likely to happen among farmers in their advancing years as among others. It is quite possibly the case, secondly, that many were enumerated by the census enumerators as "farmers" when in fact farming was the occupation engaged in prior to the oncoming of blindness. In other words, a considerable part of those listed as farmers are persons who were farmers at some previous time, and have after becoming blind continued in the general direction of this employment, though probably prevented from extensive participation in it.

After farming, the main occupations are broom making, music playing and music teaching, and retail merchanting and dealing other than huckstering and peddling, about one-twelfth of the blind gainfully employed—8.3 per cent, 8.1 per cent, and 7.8 per cent, respectively—being found in each. In the consideration of possible trades for the blind, which is to come later, we shall find that broom making is one of the most important single trades for the blind, and that to men learning a new pursuit it is offered most frequently of all; hence we can account readily enough for the number of the blind discovered to be in it. The playing and teaching of music have also long been recognized as peculiarly suited

for the blind, and in the census statistics are included both high-class musicians and street performers. The number of the blind found as retail merchants and dealers is no doubt due to the fact that they were thus engaged at the time that they became blind, and to the further fact that in most cases the businesses are small, requiring no great outlay of capital, and that many receive assistance from other members of their families. Dealing in music and in news-matter very often are occupations undertaken by blind persons whose affliction has newly come upon them.

From 4 to 5 per cent of the male blind are severally engaged as hucksters and peddlers (5.0 per cent), piano tuners (4.4 per cent), agricultural laborers (4.3 per cent), and laborers not otherwise specified (4.0 per cent). Huckstering and peddling include in great measure the purveying of various articles on the street or from house to house, as pencils, matches, shoestrings, and the like, which often amounts to little more than begging Piano tuning as an employment for the blind is very closely akin to the teaching and playing of music, generally looked upon as a desirable field. The high proportion of agricultural laborers discovered is no doubt to be accounted for in the same way as the large number of farmers—persons being enumerated who were thus engaged before the oncoming of blindness (a few having such tasks as corn husking). Laborers not otherwise specified include persons doing various odd jobs.

Smaller proportions are found for chair caners (3.0 per cent), these being in a trade which, like broom making, is considered to be specially adapted for the blind; canvassers and agents, other than real estate or insurance (2.4 per cent), a number perhaps having scarcely more than occasional employment; wood sawyers and woodchoppers (2.2 per cent), also including some whose tasks are of irregular character; clergymen and other religious workers (2.1 per cent); newspaper carriers and newsboys (1.2 per cent); and salesmen and clerks in stores (1.2 per cent).

The remaining 23.8 per cent of the male blind are dis-

tributed among different occupations. Certain of these are regarded as more or less appropriate for the sightless: poultry raising, with 0.5 per cent; basket making, with 0.6 per cent; carpet and rug making, with 0.4 per cent; hammock and net making, with 0.2 per cent; mattress making, with 0.6 per cent; and telephone operating, with 0.3 per cent. In organ grinding are specially reported 0.2 per cent.

The proportion of the female blind gainfully employed is on the whole so small that few words of comment are necessary. The range of occupations open to them is seen to be much more narrow than that for men. With proportions of not less than one per cent, they are found as follows: musicians and teachers of music, 12.4 per cent; farmers (including dairy farmers), 9.4 per cent; servants and waitresses, 8.9 per cent; laundresses (not in laundries), 8.1 per cent; knitters (not in factories), 7.6 per cent; agricultural laborers, 6.8 per cent; fancy workers, 6.4 per cent; professors, school principals, and teachers, 4.2 per cent; chair caners, 3.2 per cent; canvassers and agents (other than real estate and insurance), 2.7 per cent; boarding and lodging house keepers, 2.5 per cent; seamstresses, 2.1 per cent; nurses, 1.6 per cent; retail merchants and dealers (other than hucksters and peddlers), 1.3 per cent; weavers (not otherwise specified, not in factories), 1.3 per cent; basket makers, 1.3 per cent; and hucksters and peddlers, 1.0 per cent. In remaining occupations, 19.2 per cent are enumerated 0.4 per cent being poultry raisers; 0.8 per cent, carpet and rug makers; 0.4 per cent, hammock and net makers; 0.8 per cent, broom makers; 0.5 per cent, mattress makers; 0.2 per cent, piano tuners; and 0.8 per cent, telephone operators. It is probable that in many cases the occupations set down are those followed before the occurrence of blindness, while in other cases it is likely that the occupations returned are after all more or less nominal. It is to be remembered, however, on the other hand, that a considerable proportion of blind women not listed as gainfully employed are in fact housewives, living in their own homes, many of whom

are engaged to a greater or less extent in the performance of household tasks.[1]

Upon the question of the extent to which the blind may be engaged in gainful occupations, the age at which the loss of sight occurred is discovered to have a not unimportant bearing. The following table will show for a little more than one-half of the blind, or those making special report, over ten years of age, male and female, the numbers so found in respect to the age at which blindness came on.

[1] In the special schedules returned, representing slightly over one-half of the blind, which are likely to possess a greater degree of accuracy, certain differences are to be found in the relative proportions of the blind in the several occupations, though on the whole not of material character. The main variation lies in the increase in the respective proportions for most of the occupations which are regarded as specially suitable or adapted for the blind, and for a few others, and a corresponding decrease for most of those of a more general nature. For males the percentage gainfully employed as broom makers is increased from 8.3 to 11.2; as musicians and teachers of music, from 8.1 to 8.9; as piano tuners, from 4.4 to 6.1; as chair caners, from 2.4 to 3.7; as retail merchants and dealers, from 7.8 to 9.5; as hucksters and peddlers, from 5.0 to 6.5; as canvassers and agents (other than real estate and insurance), from 2.4 to 3.7; as wood sawyers and woodchoppers, from 2.2 to 3.5; and as clergymen and other religious workers, from 2.1 to 2.7. Similar gains, though rarely amounting to more than one or two per cent, are shown for basket makers, carpet and rug makers, hammock and net makers, mattress makers, poultry raisers, telephone operators, and organ grinders; and for stock raisers, newspaper carriers, and lawyers. The heaviest decreases are found among those engaged in the extraction of minerals, and among drivers and teamsters, with noteworthy ones also among farmers, agricultural laborers, persons in public service, janitors, servants and waiters, boarding and lodging house keepers, salesmen, and the several unspecified classes. The percentage for farmers is reduced from 22.2 to 16.0. For females the changes are many. Among those engaged in general occupations the proportions are in nearly all cases reduced, and in some considerably so. The most important increases in the percentages gainfully employed in the several occupations are from 12.4 to 15.6 among musicians and teachers of music; from 7.6 to 14.2 among knitters (not in factories); from 6.4 to 11.6 among fancy workers (not in factories); from 3.2 to 4.7 among chair caners; and from 2.7 to 3.8 among canvassers and agents. These differences are largely due to the fact that in the special schedules only those were included who were actually engaged in a particular occupation, there being reported in the general enumeration a number of persons who had been engaged before the oncoming of their blindness. According to the general enumeration of the male blind, the native-born whites, the foreign-born whites, and the Negroes are, with their respective percentages, found as follows: farmers, 22.8, 16.4, and 23.8; broom makers, 9.5, 9.7, and 1.3; musicians and teachers of music, 8.9, 5.0, and 7.5; retail merchants and dealers, 8.3, 9.2, and 3.8; hucksters and peddlers, 4.7, 7.6, and 4.3; piano tuners, 5.6, 2.6, and 0.4; agricultural laborers, 3.7, 2.9, and 8.4; laborers not otherwise specified, 3.1, 3.2, and 9.0, chair caners, 2.8, 3.8, and 3.3; canvassers and agents, 2.7, 2.7, and 1.0; wood sawyers and woodchoppers, 1.1, 0.6, and 9.8; clergymen and other religious workers, 1.8, 1.1, and 4.7; newspaper carriers and newsboys, 1.3, 1.3, and 1.1; salesmen and clerks, 1.4, 1.0, and 0.4; and all others, 22.2, 32.9, and 21.3.

THE BLIND IN GAINFUL OCCUPATIONS ACCORDING TO AGE OF LOSS OF SIGHT

	Male			Female		
	Total	Gainfully employed		Total	Gainfully employed	
		Number	Per cent		Number	Per cent
Total	16,747	4,101	24.5	11,754	681	5.8
Under 20	4,480	1,777	39.7	3,562	464	13.0
Under 5	2,207	767	34.8	1,915	264	13.8
5 to 9	810	344	42.5	645	90	14.0
10 to 14	683	316	46.3	537	56	10.4
15 to 19	714	325	45.5	433	47	10.9
Indefinite	66	25	....	32	7	....
20 or over	11,923	2,282	19.1	7,929	210	2.6
20 to 24	867	374	43.1	386	32	8.3
25 to 44	3,735	1,226	32.8	1,683	91	5.4
45 to 64	4,049	541	13.4	2,873	63	2.2
65 or over	3,272	141	4.3	2,987	24	0.8
Age not reported	344	42	12.2	263	7	2.7

On these results the report of the census thus comments:

For both males and females the proportion gainfully employed was much higher among those who lost their sight before reaching the age of 20 than among those who lost it in adult life. Of the male blind who lost their sight before the completion of their twentieth year, two-fifths (39.7 per cent) were gainfully employed, as compared with one-fifth (19.1 per cent) of those who lost it after the age of 20, while the corresponding proportions for females were 13.0 and 2.6 per cent respectively. These differences are of course largely due to the fact that the blind who lost their sight when less than 20 years of age include a much larger proportion of persons still at the age of economic activity than do the blind who lost their sight after that age; there is also probably a greater likelihood that persons losing their sight in childhood will undertake to learn a trade or profession than that those already employed when they lose their sight will learn an entirely new occupation, as a much higher degree of initiative is required in the latter instance than in the former, and the task of acquiring the requisite skill to carry on the new occupation is somewhat more difficult by reason of the fact that such skill ordinarily differs entirely from that necessary in the previous occupation and is acquired by very different training. In the case of females, moreover, there is the further factor that those who lost their sight after the age of 20 probably comprised a larger number of married women, and hence were less likely to be gainfully employed even if they had not lost their sight.

The proportion gainfully employed among the male blind who

lost their sight at the different ages between 5 and 24 shows comparatively little variation, being somewhat over two-fifths in each case. For the later age periods, however, the percentage decreases rapidly, only one-third (32.8 per cent) of those who lost their sight between the ages of 25 and 44 having a gainful occupation, only 13.4 per cent of those who lost it between 45 and 64, and only 4.3 per cent of those who lost it after reaching the age of 65. For females the proportion was highest (about 14 per cent) among those who lost their sight before the completion of their tenth year, and was about 10 per cent among those who lost their sight during the second decade of life. The percentage decreases gradually as the age when vision was lost increases, only 1.5 per cent of those who lost their sight after the age of 45 reporting an occupation.[1]

The proportion of the blind engaged in the different occupations also varies somewhat with the age at which occurred the loss of vision. Among males who were thus affected in childhood or youth, or under the twentieth year, a relatively higher proportion is usually found for those industries deemed to be particularly suited for the blind, and as a rule of the kind taught in their special schools. Among such the percentage for musicians and teachers of music is 16.6, as against 8.9 among all the blind gainfully employed; for broom makers 14.7, as against 11.2; for piano tuners 12.3, as against 6.1; and for chair caners 6.3, as against 4.7. These four occupations together give employment to just more than one-half (50.3 per cent) of the blind whose blindness came about in early life. Similar increases, though slight in themselves, occur among mattress makers, carpet and rug makers, hammock and net makers, dealers in music and musical instruments, salesmen and clerks (in stores), and a few others. A rise may also be noted among professors, school principals, and teachers.

For males whose sight was lost in adult life a higher proportion is discovered among those engaged for the most part in general business and industrial pursuits, especially agriculture and kindred occupations, domestic and personal service, transportation, certain manufacturing and mechan-

[1] "The Blind in the United States," pp. 143, 144.

ical employments, and trade. (Noteworthy exceptions in the last two classes are, respectively, basket making and dealing in music and musical instruments.) Of those becoming blind in adult life, farmers constitute 22.1 per cent, embracing over a third (35.8 per cent) of those becoming so after the forty-fifth year; and retail merchants and dealers, 12.0 per cent. The considerable ratios in the occupations represented by these two groups are mainly to be accounted for by the circumstance that such are among the leading occupations of the general population, and hence are in any event likely to be relatively large. A further reason may be that in them blindness may prove to be less of a handicap than in some others.

With respect to females, increased proportions are found for those whose blindness occurred in early life chiefly among musicians and teachers of music, with a percentage of 22.4; fancy workers, with a percentage of 14.9; chair caners, with a percentage of 5.8; and professors, school principals, and teachers, with a percentage of 5.2. In certain other occupations slight gains are also recorded. For that portion losing vision after the twentieth year the proportions are greater mainly in the occupations of a general nature, being most pronounced among farmers, laundresses (mostly Negro washerwomen), servants and waitresses, and seamstresses. Such is the case also for knitters, basket makers, and persons in a few similar industries.

In connection with the question of the proportion of the blind gainfully employed in relation to the period of life at which the loss of sight took place, we may note the effect which education, particularly in the special schools, has upon the situation. The following table will show the percentages of the blind over ten years, and of males and females separately, gainfully employed, according to school attendance.[1]

[1] On a certain degree of caution necessary in accepting the figures here presented, see "The Blind in the United States," p. 128.

THE BLIND IN GAINFUL OCCUPATIONS ACCORDING TO SCHOOL ATTENDANCE

	Total	*Male*	*Female*
Total	16.8	24.5	5.8
Having attended school	28.5	39.3	12.1
Having attended special school or workshop for the blind	39.2	52.5	19.2
Having attended other schools also	47.9	60.6	21.6
Having attended no other school	35.7	48.7	18.4
Not having attended special school or workshop for the blind	16.5	24.6	4.0
Not having attended school	9.9	15.2	2.3
Not reporting as to education	7.8	13.3	1.7

These findings are thus interpreted by the census report:

In this table the value of the work done by the special institutions for the blind in fitting them for self-support is brought out clearly. Of the total number who had attended a special school or workshop for the blind, practically two-fifths (39.2 per cent) were gainfully employed, as compared with 16.5 per cent, or one-sixth, of those who had only attended schools primarily for the seeing, and 9.9 per cent, or one-tenth, of those reporting that they had never attended school. The proportion was somewhat higher for those who had attended other schools in addition to a special institution for the blind, being 47.9 per cent, or somewhat less than one-half, whereas for those who had attended no other school it was 35.7 per cent, or somewhat more than one-third. The reason for the higher percentage in the case of those who had attended both an institution for the blind and other schools lies partly in the fact that they include persons who lost their sight in adult life and went to a workshop for the blind for the purpose of learning a trade.

It must be of course remembered . . . that other factors than the superior capacity for self-support which results from education enter into the differences in the percentages. Even if conditions were equal in all other respects, the percentage reporting a gainful occupation would probably be higher for those who had been to a school or workshop for the blind than for those who had not, and for those who had been both to a school for the blind and schools primarily for the seeing than for those who had been only to a school for the blind, by reason of the difference in the condition of the respective classes. Thus those who had never been to an institution for the blind probably comprised in the majority of instances persons who had lost their sight in adult life and who to a considerable extent were past the age of economic activity, or, as in the case of married females, had others to support them and hence did not need to seek employment, whereas those who had attended a

school for the blind were as a class younger and to a greater extent still in the years of economic activity. Similarly, of the blind who had attended an institution for the blind, those who had been to no other school doubtless comprised a larger proportion who had lost their sight in childhood, and thus a larger proportion who had not yet reached the age of economic activity, than did those who had received instruction also at schools primarily for the seeing. For these reasons the differences in the percentages reporting an occupation for the various classes with respect to education cannot be regarded as an accurate measure of the extent to which education increases the ability of the blind to support themselves.

More than one-half (52.5 per cent) of the males who had attended a special institution for the blind reported a gainful occupation. In the case of those who had also been to an institution primarily for the seeing, the proportion arose to 60.6 per cent, or three-fifths, while among those whose instruction was confined to an institution for the blind, the proportion was somewhat less than one-half (48.7 per cent). Of those who had not been to a special institution for the blind but had attended other schools, one-fourth (24.6 per cent) reported an occupation, and of those reporting that they had not attended any school, 15.2 per cent, or about one-seventh.

Of the female blind who had been to an institution for the blind, one-fifth (19.2 per cent) were gainfully employed. The difference between the proportions for those who had attended other schools also and those who had attended no other schools was much smaller than for males, the percentages being 21.6 and 18.4, respectively. The difference between the percentage for those who had attended a special school for the blind and those who had not was, however, much greater for females than for males, only 4.0 per cent of those whose education had been confined to schools primarily for the seeing reporting a gainful occupation, and only 2.3 per cent of those reporting that they had not attended any school.[1]

The final matter to call for attention in respect to the extent to which the blind are gainfully employed has relation to the actual proportion who are barred directly because of the existence of their blindness, that is, the net economic loss to the country resulting from this affliction. It is to be remembered that an exceedingly large number of

[1] "The Blind in the United States," pp. 148, 149.

the sightless are in advanced years, a great portion of whom would not be industrially employed even if they were in possession of their vision; so that the total number of the blind found not to be engaged in remunerative tasks does not represent the real number prevented therefrom by the fact of blindness alone. On this matter we may quote from the report of the census:

The total number of persons who were already grown up when they lost their sight and reported themselves as having been gainfully employed prior to the loss of sight was 14,029, of whom 11,566 were males and 2,463 females. A comparison of these figures with the number reporting themselves as gainfully employed at the time of the enumeration serves to bring out in one way the extent of the economic loss occasioned by blindness, so far as this can be measured by the number of workers incapacitated for further employment. . . . There were among the blind who returned the special schedule 2,282 males and 210 females who lost their sight after the age of 20 and were reported as gainfully employed at the time of the enumeration, so that at least 11,537 persons (9,284 males and 2,253 females) who before they lost their sight were gainfully employed were unemployed at the time when the census was taken, these representing 82.2 per cent, or more than four-fifths (80.3 per cent in the case of males and 91.5 per cent in the case of females) of the total number reporting themselves as gainfully employed before blindness. If the number was as great proportionately among those who failed to return the special schedules as among those who returned them, a total of about 22,500 blind persons in the United States who pursued a gainful occupation before they lost their sight were at the time of the enumeration entirely without employment.

The actual loss from the working force of the United States by reason of blindness was, however, by no means so great as the figures just given would seem to indicate, as many of those returning their occupation before blindness were old people who had retired before they lost sight, while others would doubtless have retired before the date of the enumeration even if they had not lost their sight. . . . Of the blind who reported themselves as gainfully employed before they lost their sight, 3,829 were 65 or over when vision was lost, or in other words, had already reached the age when the majority of persons retire from active employment. In addition, if the proportion who

had reached the age of 65 at the date of enumeration among those who had lost their sight in the early or middle years of adult life (between the ages of 20 and 64) was the same for those who were gainfully employed before blindness as for the total who reported sight as lost at these ages, 3,484 others who reported that they had been gainfully employed before they lost their sight had attained the age of 65 when the census was taken. If the corresponding numbers for the blind who failed to return the special schedule was as great proportionately, about 14,000 or 15,000 of the total number of blind persons who had pursued a gainful occupation before losing their sight had at the date of the census passed the age of 65, so that the loss to the working force of the country in 1910 resulting from their blindness was comparatively slight. If this estimate is correct, the number of persons in the United States who had been gainfully employed but by reason of blindness were no longer pursuing an occupation was not far from 7,000 or 8,000. This of course does not represent the total loss to the working force of the United States resulting from blindness, as it takes no account of the adult blind who lost their sight in infancy, childhood, or youth, many of whom have been prevented from pursuing a gainful occupation by reason of their defect.[1]

The total blind population of the United States, it may be continued, between the ages of twenty and sixty-four is reported as 27,369. Of these, some two-fifths lost their sight prior to their twentieth year, or about 10,900. As the percentage of the blind losing sight before this time who are gainfully employed is only about 28, there are some 7,800 blind persons of such age who might be employed but for their blindness. This represents the number of blind persons of active working years and becoming blind before adult life, who are debarred from remunerative toil. Adding it to the number still in the period of economic activity who have been compelled to surrender their pursuits, we have 15,300 —or 56 per cent of those between twenty and sixty-four years of age —as the approximate number of the blind who

[1] "The Blind in the United States," pp. 150, 151. See also *ibid.*, p. 62. A certain proportion of the blind in advanced age might, but for their blindness, have saved up a competence to maintain them. In Chapters VI and IX further reference is made to the occupations in which the blind were previously engaged.

are directly prevented by reason of their want of vision from engaging in gainful occupations.

Another way of estimating the extent to which the blind are rendered incapable of being assimilated into the economic forces of the country is to compare the number of them found to be gainfully employed with such number among the general population. The proportion of the latter over ten years of age, as we have seen, is a little over one-half, while that of the former is about one-sixth. If one-half of the blind were thus occupied, their number would be 27,736. But as only 9,321 are discovered to be actually so, it appears that some 18,415—or 64 per cent of those between twenty and sixty-four years of age —are debarred by their blindness from participating in the occupations of men.[1]

Means from Which Support of the Blind Is Derived

We have now seen in what degree the blind are engaged in gainful occupations over the country. It remains to be determined how far they may be said to be able to provide fully of themselves their means of livelihood, and to discover from what sources those not able so to do have to look for their maintenance.

Referring first to the number reported in the census investigations as gainfully employed, we find that only a part, and but the smaller part, are to be regarded as receiving sufficient compensation to be self-supporting. To quote:

> These figures do not mean, however, that even as many as 9,000 blind persons were earning their own livelihood; the actual number was in all probability considerably less. Leaving out of consideration the circumstance already noted that blind persons frequently were incorrectly reported by the population enumerators as still carrying on the occupation in which they

[1] The proportion of all the blind so affected, according to the first estimate, is, approximately, 27 per cent, and of all the blind in adult life, 30 per cent; and according to the second, 32 per cent and 36 per cent, respectively. In neither case is deduction made for women, some of whom would in any event not be industrially employed.

were engaged at the time when they became blind, in a large proportion, possibly the great majority, of cases where an occupation was reported on the special schedule the earnings received from it fell far short of the amount necessary to make the person reporting it self-supporting, in many instances being a mere pittance of less than $100 a year. This is particularly the case among the female blind, a large number of blind females for whom an occupation was reported merely doing a little knitting or fancy work and selling the articles which they made.[1]

Of the 4,648 blind persons gainfully employed who returned special schedules, there were found to be self-supporting but 1,891, or two-fifths (40.7 per cent). Of the 4,101 males, 1,743, or 43.8 per cent were so; and of the 681 females, 148, or 22.2 per cent. This means that of the blind over ten years of age (28,501), only 6.6 per cent are to be considered as self-supporting—10.4 per cent for the males, and 1.3 per cent for the females.

Of the blind gainfully employed there are also reported 3,129, or 67.3 per cent, as dependent on their occupations for a living. On this the census comment is as follows:

The full significance of the figures regarding the situation as to self-support appears when those relating to the dependence of the blind person on his occupation for a living are taken into consideration. The number of males reporting that they were self-supporting was 1,743, whereas 2,829 stated that they were dependent on their occupation for a living, so that at least 1,086 must have required assistance from friends or charitable agencies, either private or governmental. Similarly, while only 148 females stated that they were self-supporting, 300 stated that they were dependent on their occupation for a living. These figures probably exaggerate the seriousness of the situation somewhat, as there is evidence that the inquiry in regard to dependence on the occupation for a living was in some cases at least misunderstood. . . . So far as the information on the schedule permitted, however, those only were tabulated as dependent on their occupation for a living who, in so far as their occupation did not support them, would have to depend upon charity for the necessities of life. Making all due allowance for any errors in the returns, the seriousness of the burden

[1] "The Blind in the United States," p. 62; "The Blind Population of the United States," p. 35.

which the blind constitute to society is plainly evident. The proportion dependent on their occupation was much higher for males than for females, being 71.4 per cent, or more than two-thirds, for the former, and 44.9 per cent, or somewhat more than two-fifths, for the latter. This difference results from the fact that a considerable number of the females tabulated as gainfully employed were blind women living with their families and doing home work, such as knitting or fancy work.[1]

Probably the clearest view of the extent to which the blind are self-supporting may be gained from an examination of the actual earnings received by them. The following table will show, for males and for females, the numbers and percentages, according to their annual earnings, as reported in the special schedules.

ANNUAL EARNINGS OF THE BLIND

	MALE		FEMALE	
	Number	*Per cent*	*Number*	*Per cent*
Total	2,711	100.0	384	100.0
Less than $100	864	31.9	227	59.1
$100 but less than $200	597	22.0	72	18.8
$200 but less than $300	305	11.3	26	6.8
$300 but less than $400	258	9.5	22	5.7
$400 but less than $500	120	4.4	11	2.9
$500 but less than $600	140	5.2	11	2.9
$600 but less than $800	138	5.1	5	1.3
$800 but less than $1,000	69	2.5	2	0.5
$1,000 but less than $1,200	69	2.5	3	0.8
$1,200 but less than $1,500	38	1.4	3	0.8
$1,500 or over	113	4.2	2	0.5

From this table it appears that very nearly four-fifths (79.0 per cent) of the male blind are only able to earn a sum below $500, nearly two-thirds (65.1 per cent) below $300, more than one-half (53.9 per cent) below $200, and nearly one-third (31.9 per cent) below $100. Slightly more than one-fifth (21.0 per cent) receive over $500, and slightly more than one-tenth (10.6 per cent) over $800. Of the females, more than nine-tenths (90.4 per cent) earn less

[1] "The Blind in the United States," pp. 146, 147.

than $400, more than three-fourths (77.9 per cent) less than $200, and very nearly three-fifths (59.1 per cent) less than $100. Only 6.8 per cent have more than $500.[1]

We do not know just how far the economic position of the blind depends upon the age of the loss of sight; but we have record of the effect upon it of attendance at school in early life. Of the blind reported as gainfully employed who had attended school, 43.3 per cent are self-supporting, as against 34.0 per cent of those who had not. The percentage for those who had attended special schools or workshops is 42.2; for those who had attended these and no other, 41.6; and for those who had attended other schools altogether, 46.3. In the following table are presented the per cent distribution by education of the male blind, according to the several amounts reported to be earned.

EARNINGS OF THE BLIND ACCORDING TO EDUCATION

	Total	*Less than $100*	*$100 but less than $300*	*$300 but less than $500*	*$500 but less $1,000*	*$1,000 or over*
Total	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	66.5	54.7	66.6	82.6	85.6	84.5
Having attended special school or workshop for the blind	46.8	39.6	47.6	65.5	65.6	56.3
Having attended other schools also	17.5	15.6	18.2	25.8	26.3	29.1
Having attended no other school	29.3	24.0	29.4	39.7	39.2	27.2
Having attended other schools only	19.7	15.0	19.0	17.1	20.1	28.2
Not having attended school	33.5	45.3	33.4	17.4	14.4	15.5

The proportions for those having attended school show gains generally with the increases in the amount of earnings, while the proportions for those who have not so attended show corresponding decreases. Higher earnings on the whole prevail among those who had attended a

[1] The median earnings for males is $182.33, and for females $85.58. With respect to the figures in general it is stated that they "exaggerate the true situation, as a considerable number of blind farmers apparently reported as their annual earnings merely the small amount of cash received from the sale of farm products, without taking into account the value of farm products produced during the year but consumed on the farm, and it is possible that similar understatements may have been made by some of those engaged in other occupations, as, for example, merchants." "The Blind in the United States," p. 147.

special institution for the blind, though the highest earnings of all are reported by those whose education had been secured elsewhere. If we consider the total number of persons who have never had schooling (not indicated in the table), we find that 46.2 per cent earned less than $100, and 82.0 per cent less than $300; whereas similar proportions for those who had attended special institutions for the blind and other schools were 24.2 per cent and 53.9 per cent; for those who had attended the former only, 25.1 per cent and 57.5 per cent; and for those who had attended the latter only, 25.9 per cent and 60.3 per cent. In all this are again apparent the beneficial results of education, including that provided by the special institutions for the blind. The main reason for the relatively high proportions among persons who had attended other schools is that they are usually engaged in occupations of a more remunerative character, often a business or profession.

We may next consider what showing is made by the blind in the several occupations in which they have been found to be engaged. In the following table is given the status, in percentages, as reported, in respect to self-support, dependence on occupation, and annual earnings, in the occupations carried on by at least 28 persons, or by approximately 5 per cent of the total number gainfully employed—and, in addition, in hammock and net making and organ grinding, two occupations to which some of the blind have a leaning.

Occupation	Number	Self-supporting	Dependent on occupation	Annual Earnings									
				Less than $100	$100 but less than $200	$200 but less than $300	$300 but less than $400	$400 but less than $500	$500 but less than $600	$600 but less than $800	$800 but less than $1,000	$1,000 but less than $1,200	$1,200 but less than $1,500	$1,500 or over
Farmers (including dairy farmers)	694	56.3	81.4	29.4	24.4	10.4	8.2	2.5	7.5	4.7	3.2	3.9	1.4	4.3
Truck farmers, fruit growers, florists, etc	28	38.5	77.7	46.7	6.7	13.3	6.7	....	....	0.7	6.7	13.3	....	....
Agricultural laborers	100	29.2	58.9	73.8	26.2	....	....	....	....	....	....	....	....	....
Stock raisers and herders	31	66.7	85.2	31.7	16.3	5.2	5.2	....	21.1	5.2	....	5.2	....	10.5
Poultry raisers	40	28.2	50.0	45.8	33.3	8.4	4.2	4.2	....	4.2	....	....	....	....
Basket makers	46	13.0	51.1	53.3	20.0	13.3	10.0	3.3	....	....	....	....	....	....
Chair caners	224	8.6	38.6	61.4	25.5	6.5	3.3	0.7	0.7	1.3	....	0.7	....	....
Carpet and rug makers (not in factories)	30	40.0	53.3	32.0	28.0	12.0	20.0	4.0	4.0	....	....	....	....	....
Hammock and net makers (not in factories)	21	13.3	40.0	72.2	22.2	....	5.5	....	....	....	....	....	....	....
Knitters (not in factories)	97	0.0	11.0	91.9	8.1	....	....	....	....	....	....	....	....	....
Fancy workers (not in factories)	85	3.6	18.9	90.2	4.9	....	....	1.6	3.3	....	....	....	....	....
Broom makers	469	32.3	58.7	36.6	28.0	13.6	13.1	4.5	2.4	1.3	0.3	0.3	....	....
Mattress makers	31	41.9	58.1	17.6	....	11.7	23.5	11.7	23.7	5.9	....	5.9	....	....
Piano tuners	250	54.3	73.0	19.1	14.8	7.1	9.3	4.4	10.9	12.0	10.4	6.0	0.5	5.5
Telephone operators	28	71.4	67.9	7.7	19.2	11.6	34.6	19.2	3.9	3.9	....	....	....	....
Real estate and insurance agents	47	71.1	70.2	....	6.9	17.8	3.4	....	10.3	13.8	....	13.8	6.9	27.6
Hucksters and peddlers	275	24.4	77.2	33.5	32.5	16.5	9.8	3.6	1.0	2.6	0.5	....	....	....
Retail merchants and dealers (other than hucksters and peddlers)	401	65.6	82.8	15.2	17.6	13.7	12.1	7.0	8.2	6.6	2.0	3.5	2.0	12.1
Salesmen, saleswomen, and clerks (in stores)	41	60.9	84.6	25.9	11.1	7.4	22.2	7.4	3.7	11.1	....	3.7	....	7.4
Canvassers and agents (other than real estate and insurance)	176	23.2	62.5	40.5	27.0	11.1	6.3	4.0	4.8	2.4	....	0.8	2.4	0.8
Newspaper carriers and newsboys	66	26.6	70.3	23.5	29.4	21.6	21.6	....	2.0	....	....	2.0	....	....
Clergymen and other religious workers	115	39.6	66.7	29.1	12.7	11.4	6.3	12.7	6.3	10.1	2.5	3.8	3.8	1.3
Musicians and teachers of music	473	45.7	72.1	27.8	19.9	10.5	11.4	5.6	5.9	5.6	5.6	3.3	2.0	2.6
Professors, school principals, and teachers	62	79.0	85.5	7.6	7.6	9.4	17.0	7.6	13.2	13.2	9.4	9.4	1.9	3.8
Boarding and lodging house keepers	34	41.2	75.8	12.5	25.0	25.0	25.0	....	....	6.2	....	....	6.2	....
Launderers and laundresses (not in laundries)	55	22.2	72.7	69.2	20.5	....	7.7	....	....	2.6	....	....	....	....
Servants and waiters	42	50.0	47.6	50.0	34.6	16.4	....	....	....	....	....	....	....	....
Wood sawyers and woodchoppers	145	14.6	70.7	76.5	16.5	5.2	0.9	....	0.9	....	....	....	....	....
Organ grinders	14	76.9	85.7	45.4	36.3	18.2	....	....	....	....	....	....	....	....

Probably the foremost thing to be said regarding these figures is that they serve to emphasize the very low earning capacity of the blind, and to prove the merely nominal character of many of their occupations. They also indicate that the sightless are often better off in general lines than in those which have been considered especially suited for them—to be accounted for largely no doubt by the circumstance that a number unusually skilled or gifted have remained at the same task in which they were engaged before the oncoming of blindness.

Among general occupations the most favorable results on the whole seem to be found in trade and professional service. The best individual showing appears to be made in real estate and insurance agency, though but a small number are seen to pursue it. Over seven-tenths of those in it are self-supporting, while nearly three-fourths earn more than $500 a year, and nearly one-half more than $1,000. The next most profitable calling is that of professors, school principals, and teachers, with a somewhat larger following, of whom one-half receive over $500, the proportion self-supporting being very nearly four-fifths. Of retail merchants and dealers, practically two-thirds are able to maintain themselves, while a little more than two-fifths are reported as earning over $400, though the actual proportion is probably somewhat higher, some having made mention merely of the year's savings, without account of receipts employed to meet personal expenses. Among this class it may be noted that dealers in music and musical instruments stand out much the best of all, 95 per cent being self-supporting, and over two-thirds earning more than $1,500 a year. Salesmen, saleswomen, and clerks are not largely represented; of them three-fifths are self-sustaining, and two-thirds receive sums of less than $400.

Farmers, comprising the largest number of the blind of any single class, show somewhat more than one-half to be able to support themselves, while nearly two-thirds earn anually less than $300, and over one-half less than $200.

The true situation among them, however, is with little doubt considerably better, a number appearing to report only the cash sums received from the sale of their products, without reference to other products which were actually consumed on the farm. In an allied industry, stock raising and herding, claiming but few blind persons, two-thirds are self-supporting, while nearly one-half have under $200 therefrom, though one-sixth have over $1,200. In truck farming, of like small representation, there are nearly two-fifths who support themselves, with two-thirds getting under $300. General agricultural laborers are more numerous; but less than one-third are self-maintaining, none receiving more than $200. Their work probably consists mostly in the doing of odd jobs, largely given as charity.

One-half of the limited number of blind servants and waiters are able to provide for themselves, the highest wage received being less than $300 a year. Among launderers, but slightly more numerous, nearly one-fourth are supported by their occupation, nine-tenths receiving less than $200. Of an even smaller group of boarding and lodging house keepers, over two-fifths provide for their own maintenance, five-sixths of whom take in less than $400.

Among clergymen and other religious workers, who have a fair representation, two-fifths are self-supporting, while a little over one-half receive less than $300, the earnings of the remainder being of varying amounts. The rather low average here is probably to be explained by the fact that a number of persons are included who have no settled pastorate but pick up small sums from time to time by acting as supplies. In huckstering and peddling, with rather considerable numbers, there is similarly constituted more or less of a transient vocation. In it but one-fourth of the blind are self-supporting, four-fifths obtaining less than $300, and two-thirds less than $200. Blind canvassers and agents probably to a certain extent do not represent a very different class, the proportion self-supporting and the sums earned being practically the same as for the preceding one, though

comprising somewhat fewer individuals. Blind wood sawyers and woodchoppers perhaps represent a group least entitled to be considered as gainfully employed, many being afforded occasional jobs largely from philanthropic motives. Of the not insignificant proportion reported, only a little more than one-eighth are self-supporting, $200 being the maximum compensation of over nine-tenths of them.

In other general occupations, in which there are but a comparatively small number of blind persons, a proportion of more than one-half self-supporting is shown for those engaged in the extraction of minerals, in trades, and in public service; and of less than one-half, in most manufacturing and mechanical pursuits and building and hand trades (exceptions being among shoemakers and cobblers, operatives in printing and publishing establishments, and manufacturers, officials, contractors, builders, etc.), in transportation, in professional service (except among lawyers and physicians and surgeons), in domestic and personal service (except among hotel, restaurant, and lunchroom keepers), and in miscellaneous and unclassified pursuits. In most instances annual earnings do not exceed $300 or $400, in a number not exceeding $100 or $200. In some trades, in certain forms of professional service, and in public service, higher figures are found. As a rule, the earnings tend to advance in those occupations having the more considerable proportions of blind persons.

In pursuits which have been regarded as peculiarly suitable or appropriate for the blind, a less favorable showing is on the whole presented. The best seems to be in piano tuning, in which a rather large number are engaged, with over one-half self-supporting, and with nearly one-half earning more than $500 a year. Musicians and teachers of music probably are to be accorded the second place, this numerous group having not far from one-half able to support themselves from their profession, and less than three-fifths receiving under $300. We have already made reference to the standing of dealers in music and musical instruments.

Another class, but one far removed from the foregoing, and embracing but the fewest persons, is that of organ grinders, who report over two-thirds of their number to be self-supporting, but no earnings to be in excess of $300, those of over four-fifths being under $200.

Among handicraft trades broom making takes the lead in the number of the blind employed, though not so in their economic standing, the proportion self-supporting in it being nearly one-third, with that earning under $300 a year over three-fourths, and with that earning under $200 practically two-thirds. Chair caning, a somewhat similar industry, though comprising only half as many persons, offers results among the lowest of all, there being but one-twelfth of those engaged in it self-sustaining, and there being not far from nine-tenths who receive less than $200. In mattress making very few individuals are found, of whom over two-fifths support themselves, and of whom almost nine-tenths take in sums below $600. In the making of carpets and rugs a similarly small number are engaged, with results almost the same, except that over-nine-tenths obtain less than $400 for their work. In the making of hammocks and nets even fewer of the blind are concerned, over one-eighth of these being self-supporting, with all but a small percentage earning less than $200. Basket makers are somewhat more numerous, but with little better showing, the proportion able to maintain themselves being practically the same, and that earning under $300 nearly nine-tenths. In two industries in particular, in which a fair number of the blind are reported, practically all women, a merely nominal occupation is for the most part betrayed. These are fancy work and knitting, with only a small percentage self-supporting in the former and none in the latter, and with earnings under $200 for all but a small percentage in the one and for all in the other —under $100 for nine-tenths in both.

A few occupations of a really general character have been thought to be more or less promising for the blind, though

the number found to enter any of them is not large. In telephone operating a fairly good showing is made, not far from three-fourths of those who are engaged in it being self-supporting, and over three-fifths receiving from $300 to $800 a year. In poultry raising the results are less satisfactory, a little over one-fourth being self-supporting, and nearly four-fifths having less than $200. Among newspaper carriers and newsboys the proportion able to maintain themselves is a little over one-fourth, more than nine-tenths of these earning under $400. Several other occupations of a general nature may perhaps be added, especially certain forms of retail dealing and merchandising already referred to.

Besides the returns of the Federal census, we have the investigations in six States which throw further light on the economic standing of the blind, and which enable us to discover more particularly how far they may be regarded as entirely self-supporting, and how far partly so. In five cases the investigations are by public commissions for the blind, namely, in New York,[1] Maryland,[2] Massachusetts,[3] New Jersey,[4] and Nebraska; [5] and in one, by a school, the Pennsylvania Institution for the Blind.[6] The following table will show the number and percentage of the blind over twenty-one years of age for whom information was secured, wholly or partly self-supporting, the number and percentage entirely so, and the number and percentage partly so.

[1] Report of New York State Commission for the Blind, 1904, p. 60.
[2] Report of Maryland Commission for the Blind, 1908, p. 6.
[3] Report of Massachusetts Commission for the Blind, 1906, p. 26.
[4] Proceedings of American Association of Workers for the Blind, 1909, p. 36; *Outlook for the Blind*, iii., 1910, p. 161.
[5] Report of Nebraska School, 1916, p. 28. There are included 76 minors. See also *Oulook for the Blind*, x., 1915, p. 34.
[6] Report, 1909, p. 22.

EXTENT OF SELF-SUPPORT AMONG THE BLIND IN CERTAIN STATES

	Total number	Wholly or partly self-supporting		Wholly self-supporting		Partly self-supporting	
		Number	Per cent	Number	Per cent	Number	Per cent
New York	632	195	31.0	61	10.0	134	21.0
Maryland	523	135	24.5	71	13.0	64	11.5
Massachusetts	778	207	26.6	78	10.0	129	16.6
New Jersey	623	195	31.3	107	17.2	88	14.1
Nebraska	404	250	61.9	129	31.9	121	30.0
Pennsylvania	1,937	375	19.3	191	9.8	184	9.4
Total	4,897	1,357	27.7	707	14.2	720	14.8

Of the entire number in all these States, the proportion wholly or partly self-supporting is seen to be a little over one-fourth (27.7 per cent), ranging in different ones from nearly one-fifth (19.3 per cent) to a little over three-fifths (61.9 per cent). The proportion wholly able to provide for themselves is in all a little over one-eighth (14.2 per cent), the lowest being just under one-tenth (9.8 per cent), and the highest slightly more than three-tenths (31.9 per cent). The proportion able to support themselves to some extent is also a little over one-eighth (14.8 per cent), or from a little under one-tenth (9.4 per cent) to three-tenths.[1]

Other evidence that we have tends to corroborate the foregoing results. In Ohio it has been found that of 1,355 blind persons over twenty years of age investigated, 150, or 9.4 per cent, are self-supporting.[2] In the State of New York of 2,513 cases for which report was made outside the cities of New York and Buffalo, 405, or 16.1 per cent, were discovered to be self-supporting.[3] In Indiana of 200 blind

[1] The different proportions in the several States are doubtless to be accounted for in part by different determinations as to what constitutes "self-support." The high proportion in Nebraska may in some measure be due to the fact that this is an agricultural State, with perhaps greater possibilities of self-maintenance. It is to be remembered also that the fewer the aged blind included, the greater is the proportion of the blind found to be self-supporting. In Massachusetts, of the number between twenty and sixty years of age, 14.0 per cent are entirely self-supporting, and 28.0 per cent partly so.

[2] Report of Commission for the Blind, 1908, p. 15. Of 450 persons found in another investigation in this State, 13.0 per cent were self-supporting. *Ohio State Medical Journal*, v., 1909, p. 466. See also Ohio Bulletin of Charities and Correction, xvii., 1911, 4, Dec., p. 23; xv., 1909, 1, Feb., p. 28.

[3] *Survey*, xxix., 1913, p. 641. This was the result of an investigation by the New York State Charities Aid Association.

persons investigated, 39, or 19.5 per cent, proved to be self-supporting.[1] For the entire United States the proportion over ten years of age able to support themselves is, as we have seen, 6.6 per cent.

All this means that of the blind in adult life in the country generally, from 70 to 80 per cent have to look entirely to others for support, and that from 80 to 90 per cent have to do so to some extent at least—unless in either case it happens that an independent income is possessed. The proportion of the blind having independent resources from which they are enabled to derive support ranges, according to the statistics at hand, from one-tenth to one-sixth of their entire number. In Massachusetts it is 16.3 per cent; in New Jersey, 9.3 per cent; in Pennsylvania, 9.0 per cent; and in New York, 14.2 per cent.[2] In the returns of the United States census for 1910, the number of the blind reported to be "living on own means" is 4,240, or 7.6 per cent of all the blind over ten years of age. The number of males so situated is 3,055, or 9.7 per cent, and of females 1,185, or 4.9 per cent. The proportion for the blind returning special schedules thus provided for is 6.9 per cent—8.6 per cent for males, and 4.7 per cent for females.

How, then, are the great majority of the adult blind of the country, constituting some two-thirds or more of their entire number, supported? This is done mainly in three ways: by the assistance of the family or friends of the blind, which is the most common method; by some form of public aid; and by some form of private aid apart from that afforded by the family or immediate friends.

Support of the blind by their own families would appear to be the most natural procedure in the case of those unable to support themselves, and is in fact the most usual one.[3] The proportion of the blind thus assisted would be greater

[1] Indiana Bulletin of Charities and Correction, Dec., 1914, p. 498 The investigation was conducted by the Indiana Association of Workers for the Blind.

[2] In Maryland 10.0 per cent are said to be well provided for.

[3] In some States, as we have seen, support of disabled members of one's family is required by law.

than it is but for the circumstance that many of the families and relatives of the blind are themselves poor, while some have no families at all. According to the investigations made in Massachusetts, New Jersey, Pennsylvania, and New York, the proportion found to be supported by the family (in Pennsylvania by friends as well) ranges from a little over one-fourth to a little less than nine-twentieths of the entire number of the blind. In Massachusetts the proportion is 30.0 per cent; in New Jersey, 33.2 per cent; in Pennsylvania, 42.7 per cent; and in New York, 27.7 per cent. In Michigan of 754 blind persons for whom report is made, 505, or 74.4 per cent, are supported by themselves or by their families.[1] It is also stated that of 1,750 blind persons in New Jersey, 1,220, or 69.7 per cent, are "suitably provided for in own home."[2]

Support of the blind by private means other than those of the family or immediate friends is of several kinds: relief by a charitable society, permanent care in some home or other institution, and direct alms-giving. The total amount of assistance of this nature, however, is not large, less than one-eighth of all the blind being thus supported. The percentages in Massachusetts, New Jersey, Pennsylvania, and New York are, respectively, 9.5, 12.4, 8.4, and 7.6. Care of the blind in special homes probably forms the smallest part of private aid, and is found only in certain localities, chiefly large cities. The proportion of the adult blind so provided for in the States having special homes is 2.3 per cent.[3] In the District of Columbia the percentage is 7.3; in Iowa, 0.5; in Massachusetts, 0.7; in Missouri, 1.4; in New Jersey, 9.8; in New York, 3.9; in Ohio, 0.4; in Pennsylvania, 2.8; and in Tennessee, 0.5. A few of the blind are in general homes or other private institutions for the seeing. Aid by charitable societies is of somewhat more frequent occurrence, but is

[1] Statistical Information Relating to the Insane, Deaf and Dumb and the Blind. Michigan, 1916.

[2] Report of New Jersey Commission for the Blind, 1917, p. 6.

[3] To these might be added a certain number of the inmates of the industrial homes for the blind, though the real wage-earners are hardly to be included.

also mostly confined to large cities. Alms-giving constitutes probably much the largest form of private relief for the blind, the practice being a well-nigh universal one.[1]

Public aid to the blind is generally of two forms: pecuniary relief, perhaps as direct pensions, and care in some public institution, most often the almshouse, with a certain number otherwise afflicted also in hospitals or in institutions for the feeble-minded or the insane. The number of the blind supported by public means is from one-eighth to one-fourth of their entire number, varying greatly in the several States, and likely to be especially large in States having a pension law for the blind. In Massachusetts the proportion is 19.6 per cent; in New Jersey, 13.8 per cent; in Pennsylvania, 15.9 per cent; and in New York, 24.1 per cent. In Michigan the proportion is 13.8 per cent. In States with pension laws the proportions are higher. In Ohio this is apparently four-fifths, in Wisconsin a little over one-fifth, in Illinois three-fifths, and in New Hampshire one-fifth. In New Jersey 5.3 per cent of the blind are supported by pensions, presumably from the National Government; and in Pennsylvania, 6.8 per cent. In outdoor relief in certain counties, cities, and towns the blind are, without special legal enactment, often included to a greater or less extent.[2]

Care in almshouses is the most frequent form of public support of the blind. Such have long been known as the retreat of the sightless, and have been their one refuge when all else has failed. In many communities the blind are freely recognized as a distinct source of the almshouse population.[3] According to the census of 1910, there are 3,375 blind persons in almshouses in the United States, or 4.0 per cent of their entire number of inmates.[4] Stated

[1] On the subject of blind mendicants, see pp. 461, 462.

[2] In Indiana relief was extended to 796 persons in 1917 because they were "blind, deaf, or crippled."

[3] In certain cases we are advised to the effect that "many helpless blind persons are cared for at the county expense." In several of the larger almshouses special wards are provided for the blind. On the matter of the blind in almshouses, see Proceedings of American Association of Instructors of the Blind, 1886, p. 40.

[4] Bureau of the Census, "Paupers in Almshouses," 1915, pp. 42, 114. The number

differently, 5.9 per cent of all the blind in the country are to-day in almshouses. According to the latest reports of the several State boards of charities or similar bodies, the blind comprise 6.6 per cent of the almshouse population in Illinois, 6.6 per cent in Virginia, 5.3 per cent in Indiana, 3.0 per cent in New York, and 1.9 per cent in Iowa. In Pennsylvania the proportion of those investigated so situated is 7.0 per cent; in New York, 7.1 per cent; in Massachusetts, 8.2 per cent; and in New Jersey (including also persons in prisons and asylums), 8.5 per cent.[1] In hospitals for the insane for the entire country there are, according to the census of 1910, 486 blind persons, or 0.9 per cent of the total number of the blind; and in institutions for the feeble-minded, 129, or 0.2 per cent.[2] The respective proportions as found in Pennsylvania are 0.9 per cent, and 0.5 per cent; and in New York, 11.3 per cent, and 1.4 per cent.[3] In the State of New York it has also been found that of 5,308 blind persons, 8.5 per cent are in public institutions; 7.2 per cent, in private institutions; and 3.5 per cent, in asylums for the insane.[4] Blind persons are also confined from time to time in certain other public institutions.

In the following table is shown in detail the manner in which the blind are supported, as found in the investiga-

in 1880 was 2,755, or 4.2 per cent; in 1890, 3,061, or 4.2 per cent; and in 1904, 2,944, or 3.6 per cent. According to the special census returns for the blind in 1910, the number reported in almshouses was 1,952.

[1] Attention is to be called to the fact that much the larger part of the blind in almshouses are persons who have become blind in the later years of life. Of 435 blind persons in the almshouses of the State of New York in 1916, 402, or 92.1 per cent, were over fifty years of age, and 258, or 59.1 per cent, over seventy. Of the blind inmates in almshouses in this State in 1879, but 12.2 per cent had lost their sight before the twentieth year; in 1895, 11.6 per cent; and in 1905, 9.1 per cent. Report of New York Institute, 1879, p. 25; 1895, p. 25; 1906, p. 33; W. B. Wait, "Three Special Studies in the Sociology of the Blind," 1906.

[2] The number is also given as 110. Census Reports, "Insane and Feeble-minded in Institutions," 1914, p. 204. On the proportion of the blind who are also feeble-minded, see pp. 301, 302.

[3] The large number reported in hospitals for the insane in New York is largely due to the fact that the investigation concerned had reference in considerable measure to the blind provided for in public institutions.

[4] Report of New York Commission for the Blind, 1906, pp. 203–554.

tions made in Massachusetts, New Jersey, Pennsylvania, and New York.[1]

[1] In New Jersey it is also found that of 1,750 blind persons (in addition to 69.7 per cent provided for in their own homes, as already mentioned), 20.7 per cent are "occupied remuneratively"; 5.7 per cent, "dependent upon benevolent institutions"; and 4.8 per cent, "in custodial care" (almshouses, prisons, or asylums). Under 20 years of age are 11.6 per cent. Of 290 blind persons specially investigated in this State in 1909, 62.8 per cent were supported, in whole or in part, by their families; 6.5 per cent, by incomes; 4.9 per cent, by pensions; 28.3 per cent, by occupations; 8.3 per cent, by public institutions; and 8.9 per cent, by private institutions and charity. Report of Commission to Investigate the Condition of the Blind in the State of New Jersey, 1909, p. 8. In an investigation of 3,983 blind persons in Massachusetts in 1901, 43.8 per cent were stated to be supported entirely by themselves; 1.7 per cent, by pensions; 31.5 per cent, by families and relatives; 12.5 per cent, by public charity; 3.8 per cent, by private charity; 1.3 per cent, by themselves, supplemented only by pensions; 1.7 per cent, by themselves, supplemented only by families and relatives; 0.7 per cent, by themselves, supplemented only by public charity; 0.8 per cent, by themselves, supplemented only by private charity; 0.2 per cent, by themselves, supplemented only by miscellaneous forms of aid; 0.6 per cent, by families and relatives, supplemented only by pensions; 0.3 per cent, by families and relatives, supplemented only by public charity; 0.1 per cent, by families and relatives, supplemented only by private charity; and 0.8 per cent, by families and relatives, supplemented only by miscellaneous forms of aid. Bulletin of Department of Labor of Massachusetts, no. 21, Feb., 1901.

MEANS OF SUPPORT OF THE BLIND IN CERTAIN STATES

MEANS OF SUPORT	MASSACHUSETTS		NEW JERSEY		PENNSYLVANIA		NEW YORK	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	778 [1]	100.0	623	100.0	1,973 [2]	100.0	2,513	100.0
Self supporting	...	...	...	.....	.....	.....	405	16.1
Fully self-supporting	78	10.0	107	17.2	191	9.7	....	.....
Partly self-supporting	129	16.6	88	14.1	184	9.3	....	.....
Supported by own means	127	16.3	58	9.3	177	9.0	357	14.2
Supported by family	...	.....	207	33.2	....	.....	695	27.7
Supported by family or friends	...	.....	...	.....	843	42.7	....	....
Supported wholly by family	201	25.9	...	.....	....	.....	....	.....
Supported partly by family	32	4.1	...	.....	....	.....	....	....
Supported in private institutions or by charitable means	...	.....	77	12.4	....	.....	....	.....
Supported wholly by private aid	34	4.4	...	.....	....	.....	....	.....
Supported partly by private aid	24	3.1	...	.....	....	.....	....	.....
Inmates of homes for the seeing	...	.....	...	.....	57	2.9	....	.....
Inmates of industrial homes for the blind	...	.....	...	.....	9	0.5	....	.....
Supported by charity, but not inmates of homes	...	.....	...	.....	43	2.2	....	.....
Dependent on community	...	.....	...	.....	....	.....	191	7.6
Mendicants	...	.....	...	.....	65	3.3	....	.....
Supported by pensions	...	.....	33	5.3	....	.....	....	.....
Supported by pensions from the Government (to soldiers or widows)	...	.....	...	.....	134	6.8	....	.....
Supported by pensions from former employers, corporation, or beneficial organization	...	.....	...	.....	14	0.7	....	.....
Supported wholly by public aid	100	12.8	...	.....	....	.....	....	.....
Supported partly by public aid	37	4.8	...	.....	....	.....	....	.....
Supported wholly by public and private aid	11	1.4	...	.....	....	.....	....	.....
Supported partly by public and private aid	5	0.6	...	.....	....	.....	....	.....
Supported in public institutions	...	.....	53	8.5	....	.....	....	.....
In almshouses or county homes	...	.....	...	.....	140	7.0	179	7.1
In hospitals for the insane	...	.....	...	.....	19	0.9	283	11.3
In institutions for the feeble-minded	...	.....	...	.....	9	0.5	36	1.4
In institutions other than institutions for the insane or feeble-minded or almshouses	...	.....	...	.....	....	.....	109	4.3
Uncertain or indefinite	...	.....	...	.....	88	4.5	258 [3]	10.3

[1] In Massachusetts according to a different classification there are found to be 574, or 73.8 per cent, in their own homes, 64, or 8.2 per cent, in almshouses, 78, or 10.0 per cent, in private families, 41, or 5.3 per cent, in public institutions, and 21, or 2.7 per cent, in private institutions.

[2] In the total for Pennsylvania are included 20 persons under twenty years of age, and 2 in schools for the seeing.

[3] In New York among the indefinite and uncertain are included 22 as being "very poor," and 88 without families.

General Conclusions as to the Economic Condition of the Blind

From all that has been said, we are left to conclude that but a small proportion of the blind are able to earn a living by their own efforts alone. A certain part, it is true, are found in a rather varied list of callings; and some fare better than others in their general powers and attainments, and consequently in their earning capacity, this being to a certain degree the more likely in cases where the loss of sight has occurred in early years, and where educational advantages have been availed of. But for the greater number of the blind the economic showing must be characterized as an unfavorable one, that of many females being particularly so. Even in industries which have been regarded as especially suitable for them, their standing appears on the whole to be scarcely better.

According to the findings for the country at large, only about one-sixth of the blind over ten years of age are gainfully employed, which is only a third of the proportion for the general population. Not more than one-fourteenth are discovered to be actually able to support themselves. According to investigations in certain individual States, from one-tenth to three-tenths of the adult blind are self-supporting, and a like proportion so in part. For most of those nominally engaged in industrial activity the returns are meagre at best. Annual earnings of four-fifths of males amount to less than $500, and of two-thirds to less than $300. In fact, the receipts of many are so slight that the occupations from which they are derived may be considered as but assisting in or contributing to self-support.

For their sustenance in life the large majority of the blind have thus to depend upon outside sources. A small part—perhaps one-eighth—have resources of their own, and are accordingly able to take care of themselves. The remainder, comprising two-thirds or three-fourths of the adult blind, are compelled to seek support in greater or less measure at

the hands of others—from their own kith and kin, from the charitably inclined of the community, and failing this, from the state in one form or other.

The situation comes about from the fact that most persons deprived of the sense of sight are deprived of such a prime essential that they are unable to engage in industrial employment as other men do who are not so handicapped, and thus to provide themselves, unassisted and single-handed, with the necessaries of life. The exigencies are in but small degree altered with those upon whom blindness falls in adult years, and who find it incumbent to adapt themselves to changed conditions, meeting difficulty alike in following the trades to which they have been accustomed, and in taking up new tasks. With all this there goes the important concomitant factor that very many of the blind, in fact an abnormally large proportion of them, are elderly or aged, blindness being, as we have had occasion to point out, a peculiar incidence to advancing years; and most of such in any circumstances are too old to work.

Yet, adverse as may appear the economic showing of the blind, perhaps the better interpretation of the matter is that, when their handicap is fully considered, this showing is, after all, a really creditable one. The circumstance that the blind can contribute to their support to the extent to which they do should be taken as attestation to the efforts put forth by them in a struggle which bears so heavily against them.

We have to leave our review of the economic condition of the blind, then, with the conviction that only a very small proportion of them may be regarded as full wage-earners, and a self-supporting element of the population. A certain portion are able to look out for themselves, particularly if in the vigor of life, by dint of their own efforts, and another portion are able to provide for themselves from their own resources; but these are distinctly in the minority. For the most part the blind can acquire but little of the world's possessions; and for what they have thereof they

must largely look to others.[1] The life of many of them is thus commingled with privation, an added burden which they have to bear. A status of dependence is most often that of the blind in the community.

[1] Such was one of the conclusions reached by the commissions for the blind of New York and of Maryland. Report of New York Commission, 1904, p. 46; Report of Maryland Commission, 1906, p. 6. By the Commission of Ohio it is said that "an overwhelmingly large proportion are dependent." Report, 1908, p. 21. It is also declared by this Commission that "the condition of the blind as a whole is deplorable, many being destitute." *Outlook for the Blind*, ii., 1908, p. 108; Ohio Bulletin of Charities and Correction, xv., 1909, 1, Feb., p. 36. For other reports as to the general condition of the blind, see *Outlook for the Blind*, viii., 1915, p. 160; *Ohio State Medical Journal*, v., 1909, p. 466; vii., 1911, p. 435; *New Jersey Review of Charities and Corrections*, vii., 1908, p. 150; Louis Stricker, "Blindness in Hamilton County," pp. 63, 65, 88 (Studies from Helen S. Trounstine Foundation, i., 3, Sept., 1918, Cincinnati); Florina Lasker, "Care and Treatment of the Jewish Blind in the City of New York," 1918 (Bureau of Philanthropic Research, Publication no. 3); Central Council of Social Agencies, Preliminary Survey of Conditions of the Blind in Cook County, Chicago, 1918.

Note to Chapter III.—For a full statement of the economic condition of the blind, this chapter should be read in conjunction with Chapters XXXII–XXXVI, where the present movements for their industrial betterment are considered.

CHAPTER IV

POPULAR CONCEPTIONS REGARDING THE BLIND

The position of the blind in society is further to be indicated by the conceptions which are held regarding them by their fellow-men, or by the attitude entertained towards them by the community in general.[1] Respecting the blind many erroneous conceptions, or misconceptions, are found to be cherished, which show little sign of abatement with the course of time. They are probably due primarily to the impression that in the loss of the sense of vision such a transcending change has been effected in one's composition and temperament as to remove one from the currents of ordinary life and ways. As few are called upon to associate intimately with the blind, there is often little chance of the realization of the true situation.

The sentiment instantly excited at the sight of the blind is one of overwhelming pity for their condition. On nearly every hand manifestations of this compassion are to be found, awakened by a state that suggests helplessness, and invites help. When occasion arises for its practical expression in some form of assistance, rarely is reluctance or hesitation displayed, but rather abundant willingness, and even eagerness. Though the method adopted to hold out a hand to the blind is not in every case, especially in such as involves the extension of material relief, a wisely chosen one, this seldom results from a want of interest in them or of a genuine desire to aid or serve them. Generous as are the motives of the public in respect to the blind, however, and creditable as are the acts of those who have had a part in succoring them, there does not always issue a complete understanding

[1] Matters of a purely psychological concern affecting the blind themselves are not within the purview of our study.

of the situation of the blind, nor is there prevented the rise of certain misapprehensions regarding them.

Because of their condition, and in part also from the compassion that has been occasioned for it, the blind have in the minds of many been trailed in clouds of imagination. They have especially lent themselves to the fancies of the story-teller, ample instances of which are found in works of fiction and of poetry.[1] The treatment which they have received here has but operated to color the views of the public generally. Oftentimes the blind are deemed to dwell to a considerable extent in a world away from and beyond that inhabited by ordinary mortals. They are held to be of a less gross and material element than are other persons, and to possess a peculiarly spiritual temperament. They are supposed to be able to respond to certain inner promptings to which others may not, and to rise to unusual esthetic heights. They are further frequently thought of as being of an exceedingly docile or tractable disposition, and as being of singularly pure and innocent minds—though now and then, on the other hand, a peculiar viciousness is attached to certain blind characters.

In another direction a quite different bearing is exhibited

[1] To readers both of classic and of popular literature not a few instances will occur of blind characters, usually of a kind to stir our sympathies over their misfortunes, to awaken our admiration for their long fight against overwhelming odds, or to indicate to us to what heights a human spirit may rise despite physical limitations. In Shakespeare's great play of "King Lear," it is the king, poor and forsaken, who furnishes the renowned example of the sorrows of the blind. In Lytton's "The Last Days of Pompeii" it is the noble-minded Nydia who acts as guide from out the stricken city. In Brontë's "Jane Eyre" the hero Rochester becomes a better man for the loss of his sight. Kipling's "The Light That Failed" is the story of a man whose vision has departed. In George Eliot's "Romola" the father of the heroine is without sight. Other blind characters are Romney in Elizabeth Barrett Browning's "Aurora Leigh"; Bertha Plummer in Dickens' "Cricket on the Hearth"; Stagg in Dickens' "Barnaby Rudge"; Wandering Willie in Scott's "Redgauntlet"; Blind Alice in Scott's "The Bride of Lammermoor;" Blind Bessie McClure in Scott's "Old Mortality"; Amyas Leigh in Kingsley's "Westward Ho"; Pew in Stevenson's "Treasure Island"; Muriel in Mrs. Muloch's "John Halifax"; Inez in Crawford's "The Palace of the King"; and Naomi in Hall Caine's "The Scapegoat." On the blind in fiction, see Proceedings of American Association of Instructors of the Blind, 1908, p. 7; *Outlook for the Blind*, vi., 1912, p. 68. See also Perkins Institution for the Blind, Special Reference Library of Books Relating to the Blind, 1907, p. 73; Supplement, 1916, p. 40.

towards the blind, though probably unwittingly enough. They are made at times to feel in a harsh manner their misfortune. Not infrequently, when in the company of others, they are subjected to a strange thoughtlessness in being spoken of as though they were not present, seemingly due in part to the supposition that they are deprived of the power of hearing.[1] Occasionally they are treated as though they were physically infirm or decrepit, or even as though they were deficient mentally.

Again, there is sometimes ascribed to certain achievements of the blind an excessive importance, these occasionally being looked upon as evidence of a mysterious endowment, or even of a "sixth sense." However remarkable such things may appear to be on the part of persons without sight, it seems often to be forgotten that some are after all of a really simple nature and possible of accomplishment without the aid of vision, and that the execution of truly difficult feats lies only with the gifted few. As a general

[1] Not seldom in the public mind the blind and the deaf are thought of together, and the problems of one class believed to be those of the other. As a matter of fact, there is but one point of resemblance between the two: both are "defective" in that they are each deprived of a most important physical sense. The gulf that really separates the blind from the deaf is far deeper than that which lies between either of the two classes and the normal population. To those intimately acquainted with both the contrast is very marked. Without close reference to psychological factors, but with consideration only of the relation of each to the community, it may be said that the deaf are better able to take care of themselves in the world, and that the blind respond more readily to what is of less concrete nature, or to what calls forth the intellectual faculties. In other words, the deaf approach the general population more along economic lines, and the blind more along psychical and social lines. The state of the blind and of the deaf has been thus described, on the supposition that each were to form a colony: "The deaf would have less poetry, but more bread and butter; fewer artists, but a greater number of useful artisans." Proceedings of National Education Association, 1903, p. 990. For comparison of the condition of the two classes, see also *North American Review*, xxxi., 1830, p. 75; *New England Magazine*, iv., 1833, p. 177; *Literary and Theological Review*, iii., 1836, p. 266; *Southern Literary Messenger*, x., 1844, p. 30; *Chambers's Miscellany*, vi., 1870, no. 44; *North British Review*, vi., 1847, p. 331; *Atlantic Monthly*, cxx., 1917, p. 730; Report of Superintendent of Common Schools in Relation to the Instruction of the Deaf and the Blind, New York, 1836, pp. 14, 20; John Kitto, "The Lost Senses," 1845, p. 5; Report of Perkins Institution, 1843, p. 6; 1847, pp. 4, 124; 1850, p. 30; Illinois School, 1851, p. 5; Missouri School, 1853; Report of Massachusetts Board of Charity, 1866, p. l.; Report of Illinois Board of Public Charities, 1872, p. 25; Proceedings of National Education Association, 1898, p. 987; Proceedings of Illinois Society for Child Study, 1899, p. 18; *Inter-State School Journal*, Jan. 23, 1901; *Journal of Ophthalmology, Otology, and Laryngology*, xx., 1914, p. 600

thing, it may be stated that on the loss of sight the remaining senses, especially that of hearing, become very quick and discriminating—or perhaps rather that a keenness is developed in the interpretation of the information furnished by these senses. With respect to the sense of hearing, for instance, it is merely true that the blind listen more intently, and thus obtain auditory perceptions of an enlarged range. In other words, the remaining senses of the blind receive no added gifts, and take on no new faculties. What they have is simply an acquired ability to use with the utmost effect what is left to them. It also comes about that the blind learn to employ certain mental powers, particularly that of memory, in ways that, with the existence of vision, are rarely called for, or even thought of. All this is but a natural result of the condition of the blind, and is after all one to be expected. Yet it is to such things that are to be attributed most of the acts or performances of the sightless regarded as marvelous. The outcome of the entire situation is two-fold, and unfortunate in one respect as in the other. Capabilities which might reasonably be imputed to the blind either are denied them or are looked upon with the greatest wonder; and powers are referred to them which few at the most possess. In consequence of all this, the practical, every-day condition of the blind is misunderstood, being either under-rated or over-rated: it is lost sight of in the mass of misconceptions which have been allowed to grow up regarding them.[1]

A misapprehension in respect to the blind of a somewhat divergent order on the part of the public is the holding of

[1] Only a few illustrations of these misconceptions need be noted. A more or less popular belief is that practically all the blind are musically inclined, and that no small number are musical geniuses. Not infrequently abnormal powers of memory are ascribed to the blind as a class. An opinion rather widely entertained is that the blind are able to recognize color by the sense of touch. Often the ability of the blind to go about unattended in the country or in the city is set down as more remarkable than it really is. Not seldom is it taken for granted that the blind are unable to feed or clothe themselves. At times it is even feared that the giving of something to do to the blind, especially in work in or about the home, will be a cruel act. It is just this work which the blind need, both to make themselves really useful, and to help lift their idleness from them.

them as though they were all composed of the same essential nature, or of one of them as the representative of a class. The fact fails to be recognized that the blind differ among themselves fully as much as is the case among normal persons. Judgment towards the blind has to be rendered according to the individuals among them, in no less a degree than according to the individuals constituting the general population.[1]

A frequent popular query as to the blind relates to the extent to which they are to be regarded as "unhappy," because of the absence of the sense of sight—a subject but to be referred to here.[2] In the main the matter varies with the temperament of the individual blind, and with particular circumstances. We may perhaps state that, speaking for the larger number of them, they do not spend themselves in bemoaning their fate, or give themselves to constant dwelling upon their affliction. Many appear undismayed, and have an abundance of cheerfulness. The "adjustment" of the blind to their condition helps much to save their lot from some of its bitterest pangs.

Another possible source of misconception lies in the clas-

[1] "There are the gifted, self-sufficient, independent blind, those whose pecuniary circumstances place them beyond the need of other assistance; the sturdy plodder who earns a fair living wage by dint of hard work, and is well content therewith; the discontented, disagreeable grumbler, who does nothing himself, and does not want any one else to work either; and the incompetent, helpless, dependent. The whole gamut of human life is found among the sightless people." *Outlook for the Blind*, vii., 1913, p. 8. See also *Voices from Darkland*, March, 1916. "There are two classes of blind adults: those to whom the loss of sight is the only hardship, and those in whom the causes which produced blindness have produced other physical disabilities. . . . Blindness with a strong mind and body is one thing; blindness plus shattered nerves, a weakened body, and serious physical ailments is quite another matter." *Outlook for the Blind*, vii., 1913, p. 61. "In spite of its frequent use in speech and in writing, the phrase 'the blind' cannot be used in any generic sense; there is no such concept as 'the blind.' Persons without sight differ, precisely as those who see, in capabilities, in tastes, in character — in short, in all matters that go to make personality. Some have keen intellects, some are dull and almost unteachable; some have a good deal of pride about their personal appearance, others are wholly devoid of an appreciation of its importance; some have strong, sterling characters, others are weak, easily led, and wholly undependable." W. C. Posey, "Hygiene of the Eye," 1918, p. 323 (O. H. Burritt).

[2] See E. T. Devine, "Misery and its Causes," 1909, p. 45; Robert Hunter, "Poverty," 1904, pp. 76, 83, 96; Maurice Parmelee, "Poverty and Social Progress," 1917, p. 298.

sification often assigned to the blind in scientific terminology, and one often adopted, if in other terms, in more common parlance, namely, that the blind are to be set down as one of the "defective" classes.[1] So far as this analysis relates to a physical state alone, it is altogether correct, for the loss of sight is obviously and unquestionably a "defect," and of a most serious character. When, however, such phrases are used loosely, and may be made to refer to or connote a mental condition as well, not only is there a misapplication of terms, but, in part from their inclusion with certain other groups, a real and measurable injury may be done to the blind as a class.[2]

Finally, with regard to popular conceptions concerning the blind, it may be remarked that it is seldom realized how distinctly "human" the blind are after all.[3] Whatever peculiarities the blind may be discovered to possess are little more than the result of the reaction of their condition upon their consciousness. They have few characteristics, aside from those directly traceable to the absence of sight, which other persons are without. Whatever foibles and whatever virtues are found among mankind or exist in human nature, these are shared in by the blind in not far from equal measure.

[1] In the "Index of the Economic Material in Documents of the States of the United States" of the Carnegie Foundation, the blind and the deaf are classed as "defectives" along with the feeble-minded and consumptives. See also Proceedings of National Education Association, 1901, p. 876.

[2] Apart from any peculiar mental attitudes of the blind, there are with some, especially children, certain physical movements, often denoted as "blindisms," which, though not on the whole of great importance, are to be discouraged and prevented where possible. Examples are the unnecessary swaying of the body and aimless motions with arms or hands.

[3] For a plaint of the blind that they are better qualified to judge of their needs than others, see *Voices from Darkland*, June, 1912.

Note to Chapter IV.—For much of the material for this chapter, the writer has to thank a number of blind persons with whom he has had interviews or correspondence. On popular conceptions regarding the blind (not including, for the most part, accounts of individual blind persons), the following may be referred to: C. M. Sawyer, "History of the Blind Vocalists," 1852; A. V. Courtney, "Anecdotes of the Blind," 1835; A. V. Courtney, "Adventures of a Blind Man and His Faithful Dog," 1856; W. H. Prescott, "Biographical and Critical Miscellanies," 1845, p. 53; B. B. Bowen, "A Blind Man's Offering," 1857; Thomas Bull, "The Sense Denied and

Lost," 1859 (England); M. G. L. Duncan, "America as I Found It," 1852, p. 335; Alexander Mitchell, "The Blind, Their Capabilities, Condition, and Claims," 1860, pp. 5, 22, 36 (England); B. G. Johns, "The Land of Silence and the Land of Darkness," 1857, p. 93 (England); B. G. Johns, "Blind People, Their Works and Ways," 1867 (England); James Wilson, "Biography of the Blind," 1838 (England); John Kitto, "The Lost Senses," 1845, p. 5 (England); Thomas Anderson, "Observations on the Employment, Education and Habits of the Blind," 1837 (England); Richard Fowler, "Some Observations on the Mental State of the Blind and of the Deaf and Dumb," 1843 (England); Alfred Payne, "The Education of the Blind and of the Deaf and Dumb," 1863 (England); Sarah Robinson, "Light in Darkness," 1876; "Trimsharp's Account of Himself" (H. A. Fuller), 1873; W. R. Buxton, "A Blind Minister," 1899; William Artman and L. V. Hall, "Beauties and Achievements of the Blind," 1854; W. H. Levy, "Blindness and the Blind," 1872 (England); "The Blind Made Happy," 1837; Robert Meldrum, "Light on Dark Paths," 1891 (England); J. W. Welch, "Abilities and Achievements of the Blind," 1905; Melissa Fuell, "Blind Boone," 1915; "Thrilling Incidents in the Life and Experiences of John F. Bahler," 1896; Frank Maciewski, "The Blind Review," 1917; George Wilson, "Five Gateways of Knowledge," 1889, p. 11 (England); J. H. Clark, "Sight and Hearing," 1856; Robert Maguire, "The Deaf and Dumb and the Blind," 1863 (England); J. W. Klein, "The Relation of the Blind to the World around Them," 1859 (England); A. C. Smith, "The Orphan Blind Girl," 1865; Timothy Woodbridge, "Autobiography of a Blind Minister," 1856; M. L. Day, "Incidents in the Life of a Blind Girl," 1859; M. L. Day, "The World as I Have Found It," 1878; M. A. Niemeyer, "Light in Darkness," 1887; A. A. Holmes, "Lost Vision," 1888; Louis Arnould, "An Imprisoned Soul" (translated by G. A. Reynolds), 1896; G. Stark and J. M. Grant, "This Blind Man" (n. d.); E. W. Franklin, "A Rift in the Clouds," 1904 (England); W. W. Fenn, "Half Hours of a Blind Man's Holiday," 1879 (England); W. W. Fenn, "Woven in Darkness," 1885 (England); E. B. F. Robinson, "The True Sphere of the Blind," 1896, p. 1 (England); H. A. Fuller, "Where Dark Shadows Play," 1890; C. J. Selby, "Flashes of Light from an Imprisoned Soul," 1904; Colin MacDonald, "About the Blind" (from *Dundee Courier*), 1890; J. T. Sibley, "The Blind, Their Characteristics and Education," 1891; W. H. Illingworth, "History of the Education of the Blind," 1910, p. 1 (England); Helen Keller, "The Story of My Life," 1903; Helen Keller, "The World I Live In," 1910; M. H. Rogers, "Children of the Night," 1911; Émile Javal, "The Blind Man's World" (translated by W. E. Thomson), 1904; Émile Javal, "On Becoming Blind" (translated by C. E. Edson), 1905; Winifred Holt, "Beacon for the Blind," 1914; Henry Hendrickson, "Out from the Darkness," 1879; Maurice de la Sizeranne, "The Blind as Seen through Blind Eyes" (translated by F. P. Lewis), 1893; Maurice de la Sizeranne, "The Blind Sisters of St. Paul" (translated by L. M. Leggatt), 1907; Gilbert Nobbs, "On the Right of the British Firing Line," 1917, p. 147; Address of J. W. Tuttle, at Bowdoin College, June, 1917; W. H. Milburn, "Rifle, Axe, and Saddlebags," 1860, p. 57; H. S. Woodruff, "The Lady of the Lighthouse," 1913; Gérard Harry, "Man's Miracle" (translated from the French), 1913; Clarence Hawkes, "Hitting the Dark Trail," 1915; J. B. Mannix, "Heroes of the Darkness," 1911 (England); W. E. Robin, "Story of My Life," 1915; Dr. Guillié, "Essay on the Instruction and Amusements of the Blind" (translated from the French), 1819; Lucy Furman, "Sight to the Blind," 1914; M. P. Montague, "Behind Closed Doors," 1915; "Fanny Crosby's Life Story by Herself," 1903; Fanny Crosby's Story of Ninety-four Years, Stated by S. J. Jackson, 1915; "Fighting in the Dark" (published by C. F. Fraser, Canada), 1879, pp. 17, 32; F. S. Pearce, "A Study of the Blind" (read before the College of Physicians, Dec. 1, 1867); S. F. C. Little, "The Education of the Blind" (read before Wisconsin Teachers Association), 1879; Charles Baker, "Contributions to the Publications of the Society for the Diffusion of Useful Knowledge," 1842, pp. 49, 237 (England); Charles Baker, Central Society

of Education Papers, i., 1837, p. 73; R. M. Johnston, Address at Georgia Academy for the Blind, Jan. 27, 1867; Nancy Buskett, "Fingers That See," 1914; E. E. Allen, Address at Formal Opening of New Building (Pennsylvania Institution, May 18, 1901); "The Making of America," 1909, x., p. 93; S. G. Howe, Address at the Ceremonies at Laying of the Cornerstone of New York State School for the Blind, 1866; William James, "Principles of Psychology," 1909, ii., pp. 202, 230; M. Kunz, "Physiology of the Blind," Volta Bureau, Reprints of Useful Knowledge, no. 56, 1908; Transactions of New York Institue of Stomatology, 1901, p. 98; American Encyclopedia of Ophthalmology, 1916, ii., pp. 1132, 1202; Edinburgh Encyclopedia, 1830, Art. "Blind;" Proceedings of American Association of Instructors of the Blind, 1871, p. 13; 1886, p. 85; 1892, p. 44; 1906, p. 7; Report of Board of Charities of District of Columbia, 1901, p. 274; Ohio Bulletin of Charities and Correction, xvii., 1911, 1, Feb., p. 66; Bulletin of Iowa Institutions, iii., 1901, p. 105; vii., 1905, p. 137; Indiana Bulletin of Charities and Correction, June, 1902; June, 1912, p. 207; Proceedings of Pennsylvania Association of Directors of the Poor and of Charities, 1901, p. 77; Proceedings of National Congress of Mothers, 1898, p. 122; Proceedings of First International Congress in America on the Welfare of the Child, 1908, p. 317; Proceedings of International Conference on the Blind (England), 1905, p. 122; 1908, p. 210; Proceedings of National Education Association, 1898, p. 1034; University of Iowa Studies in Psychology, viii., 1918, p. 148 (Psychological Review Publications, xxv., no. 2); Encyclopedia Medica, 1915, ii., p. 238; A. J. Pillsbury, "Institutional Life" (California), 1906; Thomas Arnold, "The Language of the Senses," 1894 (England); Report of Smithsonian Institution, 1909, p. 683 (translation from French of Pierre Villey, in *Revue des Deux Mondes*, March 15, 1909); Proceedings of 1st Reunion of Officers, Teachers, and Pupils of New York State School for the Blind, 1879, p. 74; Report of Perkins Institution, 1848, p. 32; 1850, p. 34; 1851, p. 11; New York Institute, 1840, p. 39; 1853, p. 37; 1862, p. 13; North Carolina School, 1876, p. 29; Missouri School, 1853; New York State School, 1866, p. 8; 1867, p. 43; Texas School, 1886, p. 6; Louisiana School, 1872, p. 37; 1873, p. 69 (quoting from *New Orleans Times*, Sept. 20, 1873); Indiana School, 1866, p. 33; 1898, p. 27; 1905, p. 12; Iowa School, 1864, p. 7; 1885, p. 14; Maryland School, 1860, p. 34; Ohio School, 1885, p. 133 (Appendix, proceedings of 4th reunion of former pupils); Pennsylvania Institution, 1907, p. 79; Tennessee School, 1901, p. 24; Proceedings at 25th Anniversary of Western Pennsylvania Institution, 1915, p. 25; Account of New York Institution, 1833, pp. 18, 32; Report of Memorial Home for the Blind (Worcester, Massachusetts), 1908, p. 4; Report of Massachusetts Commission for the Blind, 1913, p. 82; *Mirror of Literature, Amusement, and Instruction*, xv., 1830, p. 115; *North American Review*, xxxi., 1830, p. 66; xxxvii., 1833, p. 20; *New England Magazine*, iv., 1833, p. 177; *Literary and Theological Review*, iii., 1836, p. 266; *Western Monthly Magazine*, iii., 1835, p. 150; *Saturday Magazine*, ix., 1836, p. 133; *American Muscum*, xi., 1792, pp. 27, 103; *Scottish Christian Herald*, ii., 1837, p. 53; *Southern Literary Messenger*, viii., 1842, pp. 415, 519; ix., 1843, p. 6; x., 1844, p. 30; *Christian Examiner*, xliv., 1848, p. 448; *Universalist Quarterly*, xi., 1854, p. 399; xiii., 1856, p. 147; xv., 1858, p. 412; xxiii., 1866, p. 412; *Rhode Island Schoolmaster*, vii., 1861, p. 144; *American Institute of Instruction*, 1836, p. 3; *Leisure Hour*, v., 1856, pp. 587, 744, 788; vi., 1857, pp. 101, 139; x., 1861, p. 54; xiii., 1864, p. 783; xxxiv., 1885, pp. 616, 767; *Hogg's Instructor*, vi., 1856, p. 130; *St. James's Magazine*, xvii., 1866, p. 111; xxiv., 1869, p. 192; *Quarterly Review*, cxviii., 1865, p. 430; clxx., 1890, p. 59; *Edinburgh Magazine and Review*, ii., 1774, p. 673; *Good Words*, ii., 1861, p. 313; xiii., 1872, pp. 205, 284; *Meliora*, iii., 1861, p. 1; *Chambers's Journal*, xliv., 1867, pp. 381, 434; lviii., 1881, p. 781; lxix., 1892, p. 166; *Edinburgh Review*, xcix., 1854, p. 61; clxxiii., 1891, p. 122; *British Review*, vii., 1914, p. 24; *English Review*, xvii, 1914, p. 133; *Van Norden Magazine*, v., 1909, p. 503; *Strand Magazine*, xliv., 1912, p. 546; xlvii., 1914, p. 787; *Ladies Home Journal*, April, 1908; *Saturday Review*, viii., 1859, p. 311; lxviii., 1889, p. 413; *North British Review*, vi., 1847, p. 331; *Littell's Liv-*

ing Age, lxiii., 1859, p. 701; clxv., 1885, p. 616; ccxiii., 1897, p. 527; *Harper's Magazine*, xxxv., 1867, p. 767; *Tinsley's Magazine*, xlviii., 1871, p. 676; *Sunday Magazine*, xiii., 1884, p. 167; xxiii., 1894, p. 130; *Argosy*, xxxviii., 1884, p. 189; *Cornhill Magazine*, ix., 1864, p. 602; xxxvi. (n. s.), 1914, p. 603; *Fortnightly Review*, xlv., 1886, p. 472; *Christian Observer* (England), lxxiii., 1874, p. 375; *National Review*, x., 1860, p. 75; v. (n. s.), 1885, p. 309; xiv., 1889, p. 256; *Home and School* (Louisville), ii., 1873, p. 594; *New Princeton Review*, lxiii., 1888, p. 18; *Journal of Franklin Institute*, cxxvii., 1889, p. 421; cxxviii.,1890, p. 9; *Science*, vii., 1886, p. 271; *Century Magazine*, xxxiv., 1887, p. 633; xxxv., 1887, pp. 163, 329; lxxv., 1908, pp. 566, 773; lxxviii., 1909, p. 82; *Southern Bivouac*, i. (n. s.), 1885, p. 407; *Canadian Monthly Magazine*, xviii., 1880, p. 171; *Spectator*, lix., 1886, p. 252; lxxi., 1893, p. 552; *English Illustrated Magazine*, xxiv., 1901, p. 267; *Education*, xi., 1891, p. 412; xx., 1900, p. 298; *Technical World Magazine*, ix., 1908, p. 202; xx., 1913, p. 543; *Catholic World*, xlviii., 1889, p. 671; *Popular Science Monthly*, xxxiii., 1888, p. 597; lxiv., 1895, p. 640; *Michigan Mirror* (Michigan School for Deaf), March 3, 1895; *Outlook for the Blind*, ii., 1909, p. 168; vii., 1913, p. 61; xi., 1917, p. 68; *Youth's Magazine*, April, 1850; *Golden Rule*, April 15, 1897; *American Magazine*, Dec., 1917; *Christian Herald*, Dec. 11, 1912; *Continent*, Jan. 18, Feb. 1, 1917; *Ohio Harp* (Ohio School), v., 1908, p. 1; *Circle Magazine*, vi., 1909, p. 74; *Inter-State School Journal*, May 3, 1899; *International Record of Charities and Correction*, ii., 1887, p. 42; *Association Review*, x., 1908, p. 465; *New Jersey Review of Charities and Corrections*, vii., 1908, p. 89; *Windsor Magazine*, xii., 1900, p. 217; *Chambers's Miscellany*, iii., 1845, no. 52; vi., 1870, no. 44; *Chambers's Home Book or Pocket Miscellany*, 1863, v., p. 98; *Nature*, lxxviii., 1908, p. 275; lxxx., 1909, pp. 38, 450; lxxxii., 1909, p. 27; *Atlantic Monthly*, lxxv., 1895, p. 172; cxi., 1913, p. 462; cxii., 1913, pp. 219, 373, 617; cxiii., 1914, p. 597; cxiv., 1914, p. 199; cxv., 1915, p. 614; *Music*, iii., 1892, p. 62; v., 1893, pp. 21, 196; *Scientific American*, c., 1909, p. 315; ci., 1909, p. 215; cxix., 1918, p. 167; *American Journal of Ophthalmology*, xxvi., 1909, p. 131; *Pedagogical Seminary*, ix., 1902, p. 127; *Problem*, iii., 1902, p. 55; iv., 1903, p. 95; *Talks, Tales, and Public Opinion*, May, 1903; Dec., 1908; *Voices from Darkland*, June, 1912; Aug., 1915; March, 1916; *Overland Monthly*, lvii. (n. s.), 1916, p. 373; *World's Work*, xiv., 1907, p. 9259; xix., 1910, p. 12326; *World's Work* (England), xxiii., 1914, p. 555; *Outlook*, lxxxii., 1906, p. 983; lxxxv., 1907, pp. 158, 578; xci., 1909, p. 859; xcii., 1909, p. 787; cxi., 1915, pp. 573, 871; cxiii., 1916, p. 147; *Independent*, lxxxiv., 1913, p. 1430; xci., 1917, p. 319; xcv., 1918, p. 21; *Scribner's Magazine*, lxiv., 1918, p. 249; *Scrap Book*, v., 1908, p. 082; *American Journal of Psychology*, xxxviii., 1917, p. 229; *American Journal of Insanity*, lxv., 1908, p. 103; *Boston Medical and Surgical Journal*, clxxvi., 1917, p. 803; *New York State Journal of Medicine*, xvi., 1916, p. 23; *Lancet-Clinic*, lxii. (n. s.), 1909, p. 169; lxvi., 1911, p. 211; *Psycho-analytic Review*, i., 1913, p. 55; *Journal of Educational Psychology*, vii., 1916, pp. 81, 143; viii., 1917, p. 23; *Illinois Medical Journal*, xxvi., 1914, p. 354; *Radcliffe Quarterly*, Aug., 1917, p. 106; *Current Opinion*, lxi., 1916, p. 108; *Literary Digest*, lii., 1916, p. 1631; lvi., 1918, p. 32; *Trained Nurse and Hospital Review*, l., 1913, p. 138; *Ophthalmology*, ix., 1913, p. 514; *California State Journal of Medicine*, xi., 1913, p. 63; *Journal of Iowa State Medical Society*, iii., 1913, p. 79; *San Francisco Chronicle*, June 11, 1885; *New York Journal*, May 31, 1903; *Sacramento Bee*, June 14, 1902; *New York Tribune*, Dec. 27, 1908; *New York Herald*, July 30, 1911; *Boston Post*, April 4, 1915; *New York Times*, March 9, 1915; *Providence Journal*, March 7, 1915; American Medical Association, Conservation of Vision Pamphlets, 1913, xviii. ("Preparation for Blindness"); xix. ("What to Do for Blind Children"). See also reports of early schools for the blind; Scrapbooks in Special Reference Library of Perkins Institution; and periodicals in England and in the United States devoted to the interests of the blind. See, in addition, different accounts with regard to persons blinded in the European War, including *St. Dunstan's Review* and *Recalled to Life* (England), and publications of the Red Cross Institute for the Blind. See, finally, various accounts of the blind in current periodicals.

CHAPTER V

COST OF BLINDNESS

Cost to the Individual

The final matter to call for attention in respect to the existence of the blind in society is that of the loss involved in blindness, personally and to the community, that is, the cost of blindness, both to the individual and to the state.

In the mere absence of the sense of vision, there results to a human being a deprivation to which few if any other earthly ills are to be likened. But in the full effect of blindness, with all its implications, there is found to be included a burden and a hardship in addition to the want of sight itself. Blindness draws after it, in the first place, usually, as we have seen, a life of dependence. Only the smaller number of the blind are able to engage remuneratively in the tasks of other men. Most occupations are closed to them, and upon the few that are open the limitations are many. For their support in life, the blind have thus in large part to look to others. With their blindness is often indigence.

This dependence of the blind upon others, however, does not stop here. In many circumstances of their daily coming and going it happens that persons with sight must be called upon for assistance. As a guide in locomotion, as a reader of current events or of other literature, as a helper in various details of daily action, and in many other relations of life, an accommodating brother or friend cannot well be dispensed with. Much of the information, furthermore, that comes to the blind must be obtained second-hand, with the possibility that to a greater or less

extent it is colored, even though unintentionally, by the medium through which it is conveyed.

Almost as severe as is the loss of sight itself are the long hours of idleness which so frequently must follow. It is not an idleness which lasts but for a season; it is one that endures through life. In blindness there is also imposed upon the vitality a strain of no small consequence, in the taxation of the powers of memorization, of hearing, and of the nervous system—a strain but little realized by those not acquainted with it.

Finally, with blindness there all too often goes, as we have noticed, a gap between those bearing it and those spared it. The result is that the blind miss the full and ready understanding which they should have, that they in considerable degree lose the helpful sympathy which should be theirs, and that they have to live in a world, not of darkness alone, but in very large measure of seclusion as well.[1]

Cost to the State

Apart from the economic loss to the state in the removal from its body of potential productive workers, there is entailed upon it a serious financial burden in direct outlays of money in behalf of the blind. The exact amount of this expenditure we do not know; but it may be possible to discover a reasonable approximation of it.

The largest single item of expense is in connection with the special schools which have been provided for the instruction of blind children. Requiring extraordinary facilities for its accomplishment, this education is much more costly than that of normal children. The annual charge for the support of the schools for the blind in the country amounts, in round numbers, to over $2,000,000, while for new buildings and lasting improvements some $375,000 more is expended. The value of the plants used for educa-

[1] On the loss to the blind from blindness, see Bulletin of Massachusetts Commission for the Blind, 1909, no. 1, p. 16; *Ohio State Medical Journal*, vii., 1911, p. 435.

tional purposes is at least $11,000,000, which at five per cent interest amounts annually to some $550,000. In other words, the education of the blind represents a cost of something like $2,925,000 a year.[1] If blind children could be educated in the regular schools where the cost, including what we may regard as interest charges, is not over $35 a year for each pupil, the amount expended for the education of the blind, would reach scarcely more than $185,000. Hence the net cost of the education of the blind comes to something like $2,740,000 annually.

After the expenditures for the instruction of the blind, we find very considerable sums disbursed directly for various forms of provisions for the blind. Nearly $200,000 is expended for special homes, about $300,000 for industrial establishments, about $1,000,000 for pensions, over $200,000 for commissions, possibly a sum not far different for associations, and perhaps a slightly larger sum for other forms of work for the blind, including the preparation of reading matter, library facilities, and home teaching—or a total of $2,250,000. The amounts expended, directly and indirectly, for the prevention of blindness and for indemnities of one kind and another for the loss of sight (including that in one eye) would increase the amounts to hardly less than $3,250,000. Adding this sum to that expended for education, we have some $6,000,000 as the amount directly disbursed for the blind each year in the United States.

All this, however, really represents but the smaller part of the actual cost of the blind in the United States. We may perhaps arrive nearer to the full cost by considering the entire number of the blind and the probable amount expended on each adult. There are, let us say, 70,000 blind persons in the United States, of whom eight-ninths, or 61,000, are over twenty years of age. Of these, approximately one-eighth have means of their own, and do not call for assistance, while another part which we will consider to be one-fifth are able to support themselves. With

[1] The cost of the schools is considered in detail in Chapter XXIV.

no deductions for those in advanced years, who would have to be provided for in any case, we find some 41,000 blind persons in the United States who require attention and care—a finding that of itself takes on added significance from the circumstance that a not inconsiderable portion of them would under ordinary conditions, or with the possession of sight, be the supporters of their families. Supposing the cost of the maintenance of these 41,000 blind persons to be on the average $250 a year—which is the mean maximum amount allowed under the pension systems now in operation—we have some $10,250,000 to represent the cost of the adult blind population of the country.[1] If we add to this the amount of the direct outlay for the blind, we find the total cost of the support of the blind in the United States annually to be $16,250,000.

There is a still further cost of blindness to the nation—the economic loss mentioned above. This is measured by the extent of the diminution of the wealth of the country by the removal from it of a certain number of its otherwise qualified producers. Just how much this would amount to, we do not know; but we may be sure that it would be very considerable. If we approach the question, however, through the matter of earnings which would otherwise be due citizens now blind, we may form some estimate in round numbers.[2] We have seen in a preceding chapter that between 56 per cent and 64 per cent— or, let us say, 60 per cent—of the blind in the working period of life (from twenty to sixty-four years of age) are directly prevented, by reason of their blindness, from engaging in gainful occupations. Regarding 33,000 as of such age, we find about 20,000 to be so disqualified. Of these three-fourths we may suppose to be males and one-fourth females, or 15,000 and 5,000, respectively. If the annual earnings of a normal able-bodied

[1] A different estimate may be made with respect to the total cost of blindness by considering the individual life of a blind person. If one lives forty years in adult life, and his support each year amounts to $250, his entire cost is $10,000.

[2] The estimates are all on the basis of 70,000 as the blind population of the United States.

male worker be taken as between $500 and $1,000, and of a female worker as between $300 and $600, then we have the total loss in earnings of blind men as between $7,500,000 and $15,000,000, and of blind women as between $1,500,000 and $3,000,000.[1] Taking the mean amount in each case, we find the loss in potential earnings of the blind to be $13,500,000. As, moreover, some 56 per cent of the male blind, or 5,600, and 78 per cent of the female blind, or 1,330, who are reported as gainfully employed, are not self-supporting, we may consider the former as on the average in need of $150 each, and the latter of $100 each, to supplement their earnings; or $975,000 in all. This makes the full annual loss due to the want of earning power of the blind, $14,475,000. To complete our estimates, we may add the amount expended directly in their behalf, which gives us the sum of $30,725,000, or in round numbers, nearly thirty-one million dollars, as the total annual cost of the blind in the United States.[2]

[1] "The earnings of a normal (better than average) able-bodied male worker between the ages of twenty and sixty are certainly not less than $500 a year, nor more than $1,000 a year. Taking the lower limit, the loss in earnings would be $———; taking the upper, $———. Somewhere between these sums may be placed the loss due to blindness." Professor H. R. Seager, of Columbia University, in a letter to the writer. The limits of the earning capacity of women are similarly suggested as $300 and $600.

[2] On the subject of the cost of blindness, see *Annals of Academy of Political and Social Science*, xxxvii., 1911, p. 274; Proceedings of National Conference of Charities and Correction, 1909, p. 91; *New York State Journal of Medicine*, xii., 1912, p. 279; *Illinois Medical Journal*, xx., 1911, p. 291; xxi., 1912, p. 416; *Ohio State Medical Journal*, v., 1909, p. 469; *Archives of Ophthalmology*, xliv., 1915, p. 521; *Journal of American Medical Association*, lxvi., 1916, p. 393; *The Child*, i., 1912, June, p. 23; *Ophthalmic Record*, xxiii., 1914, p. 516; *Journal of Ophthalmology, Otology and Laryngology*, xx., 1914, p. 495; *Southern Medical Journal*, viii., 1915, p. 968; *Journal of Ophthalmology and Oto-Laryngology*, x., 1916, p. 103; Report of New York State School, 1896, p. 55; Report of Massachusetts Commission for the Blind, 1912, p. 10; *Annals of Ophthalmology*, xxiii., 1914, p. 752.

PART II

BLINDNESS AND THE POSSIBILITIES OF ITS PREVENTION

CHAPTER VI

CAUSES OF BLINDNESS AND EXTENT OF ITS POSSIBLE PREVENTION

Causes of Blindness

At the outset of all consideration of the problems of the blind there stands the question whether they are to be regarded as a permanent element of the population, or whether their number may to some extent be reduced. In other words, there is challenged the existence of blindness itself; and the primary inquiry before us is found to be whether it is possible to do away with this affliction or at least to lessen it to an appreciable degree. In the present chapter we shall endeavor to analyze the causes of blindness, and seek to ascertain the proportion that is preventable by means now available. In the next three chapters we shall deal respectively with the question of heredity and its effect upon blindness, with the blindness which is due to disease, and with the blindness which is due to accidents. In the subsequent chapter we shall attempt to discover whether blindness is or is not on the whole tending to increase. In the concluding chapter on the possibilities of prevention we shall consider the organized movements now existing for the prevention of blindness.

In the following table are presented the several causes of blindness, as reported for 29,242 cases for whom special schedules were returned for the census of 1910, with the number and percentage for each cause.[1]

[1] "The Blind in the United States," 1917, pp. 96–116, 196–219. These returns do not possess absolute accuracy. In a number of cases it is difficult to determine the exact cause of blindness, as there is often little in the way of medical or specialized examination, and as the complexity of the organism and the obscurity of the disorder affecting it not seldom preclude the discovery of the precise trouble. In some instances, as has already been indicated, it is far from easy to ascertain whether the

CAUSES OF BLINDNESS

	Number	Per cent
All causes	29,242	100.0
Disease	11,011	37.7
Specific affection of the eye	8,315	28.4
Diseases of the conjunctiva	1,115	3.8
Trachoma (granulated lids)	440	1.5
Ophthalmia neonatorum	585	2.0
Gonococcus conjunctivitis (exclusive of ophthalmia neonatorum)	22	.....
Pterygium	9	.....
All other	59	0.2
Diseases of the cornea	271	0.6
Corneal ulcer	224	0.8
Staphyloma	28	.....
All other	19	.....
Diseases of the iris	135	0.5
Diseases of the choroid	18	.....
Glaucoma	989	3.4
Diseases of the retina	184	0.6
Retinitis pigmentosa	27	.....
Retinitis hemorrhagica	45	0.1
Detachment of the retina	93	0.3
All other	19	.....
Diseases of the optic nerve	1,847	6.3
Atrophy of the optic nerve	1,805	6.2
All other	42	0.1
Diseases of the crystalline lens	3,274	11.2
Cataract	3,267	11.2
All other	7	.....
Amaurosis and other disturbances of vision without ophthalmoscopic changes	42	0.1
Progressive myopia	24	.....
Cancer and other neoplasms	43	0.1
All other diseases of the eye	17	.....
Combination of two or more diseases of the eye	356	1.2
Diseases other than specific affection of the eye	2,677	9.2
Typhoid fever	219	0.7
Smallpox	227	0.8
Measles	483	1.7
Scarlet fever	305	1.0
Diphtheria	25	.....
Influenza (grippe)	215	0.7
Syphilis	63	0.2
Meningitis	351	1.2
Other diseases of the head	368	1.3
Locomotor ataxia	83	0.3
Spinal trouble (not otherwise specified)	72	0.2
Bright's disease	33	.....
Diabetes	28	.....
Kidney disease (not otherwise specified)	78	0.2

blindness is "congenital" or not, while several of the main causes, especially cataract, retinitis pigmentosa, and others, to a greater or less extent of hereditary character, may not be operative till the elapse of a considerable length of time. It is also to be remembered that the diseases occurring in the early periods of life are, because of their relatively greater number, most frequently reported. It is further likely that certain diseases not generally known to the lay public, such as disorders of the retina, iris, and choroid, are not sufficiently represented in the returns. In the census of 1900 the causes of blindness were classified according to the part of the eye affected. To opacity was attributed 52.4 per cent, 18.2 per cent being in the lens, 17.6 per cent in the cornea, and 2.0 per cent in the iris, ciliary body, and choroid; and to some affection of the nervous apparatus, 12.3 per cent, including affections of the retina, optic nerve, brain center for sight, and other parts of the receiving mechanism of the eye. The remaining causes were unclassified or unknown. Special Reports, "The Blind and the Deaf," 1906, p. 12 *et seq.*

CAUSES OF BLINDNESS—*Continued*

	Number	Per cent
Puerperal fever	13	.....
All other	48	0.2
Combination of two or more diseases	66	0.2
Specific affection of the eye returned for one eye, disease other than of the eye for the other	19	.....
Accident or other injury (including sympathetic ophthalmia)	3,942	13.5
Directly affecting the eye	2,629	9.0
From burns	161	0.6
From firearms	165	0.6
From cutting or piercing instruments	224	0.8
From falls	19	.....
From explosives	721	2.5
From other explosions	79	0.2
From explosions of nature not stated	64	0.2
By machines	7	.....
From flying objects (other than in explosions)	350	1.2
By animals	43	0.1
From unfortunate results of operations	52	0.2
From other definitely reported causes	343	1.2
From causes not definitely reported	283	1.0
From combination of causes	118	0.4
Not directly affecting the eye	333	1.1
From firearms	63	0.2
From cutting or piercing instruments	4	.....
From falls	113	0.4
By machines	2	..
From blow to the head	86	0.3
By animals	14	.....
From other definitely reported causes	24	.....
From causes not definitely reported	27	.....
Part affected uncertain	978	3.3
From firearms	239	0.8
In mines and quarries	31	.....
From falls	120	0.4
By machines	5	.....
By animals	31	.....
From other definitely reported causes	79	0.3
From causes not definitely reported	473	1.7
From combination of classes of causes	2	.....
Poisoning	108	0.4
Alcoholic poisoning (other than wood alcohol)	12	.....
Tobacco poisoning	20	.....
Wood alcohol poisoning	24	.....
Chronic lead poisoning	19	...
Other chronic occupational poisoning	9	.....
All other	24	.....
Other definitely reported causes	386	1.3
Malformations	62	0.2
Foreign substances in the eye	210	0.7
Acids and other substances of chemically destructive nature	104	0.4
Dust and other foreign particles	106	0.4
All other	6	.....
Causes indefinitely or inaccurately reported	10,384	35.5
Congenital (cause not stated)	1,601	5.5
Catarrh	154	0.5
Colds	189	0.6
Exposure to cold	19	.....
Exposure to heat	441	1.5
Malaria	46	0.1
Military service	564	1.9
Neuralgia	755	2.6
Old age	666	2.3
Paralysis	197	0.7
Scrofula	234	0.8
Sore eyes	921	3.1
Strained eyes	231	0.8
All other	4,366	14.9
Combination of different classes of causes	444	1.5
Cause unknown	3,075	10.5

From this table it is seen that only a little more than one-half (54.0 per cent) of all the causes of blindness are definitely reported. Nearly two-fifths (37.7 per cent) are due to disease, of which some three-fourths (28.4 per cent of all) are specific affections of the eye, and one-fourth (9.2 per cent of all) are diseases of a general nature. If we add what seems a reasonable proportion of the causes listed as indefinite and unknown, we have probably not far from four-fifths of blindness ascribable to disease. For slightly over one-eighth (13.5 per cent) of blindness injuries to the eye, occurring in accident or otherwise, and including injury to one eye and sympathetic ophthalmia in the other, are held to be responsible, though, without allowance for augmentation from indefinite and unknown causes, it is possible that the proportion is a trifle exaggerated.[1] Other definite causes account for a small amount (2.8 per cent) of blindness.

Among specific affections of the eye that which easily holds first place is cataract, with almost one-eighth (11.2 per cent) to be charged to it, though it is likely that the actual proportion is greater, as a considerable number of cases attributed to old age or indefinitely reported were no doubt due to it.[2] Next is atrophy of the optic nerve, with a little over half as much (6.2 per cent), albeit the amount is also understated, it being the real cause of not a little attributed elsewhere, especially to meningitis and other diseases of the head, and to injuries not directly affecting the eye. Following with smaller proportions for each are glaucoma (3.4 per cent), ophthalmia neonatorum (2.0 per cent),[3] trachoma, or granulated lids (1.5 per cent), and corneal ulcer (0.8 per cent). Glaucoma probably has a larger effect upon blindness than the figures would indicate, the majority of the cases attributed to neuralgia, for one

[1] The proportion of schedules returned was above the average for persons likely to be exposed to injuries to the eye.

[2] Relatively fewer schedules were received from very old persons.

[3] Included are cases where the disorder assigned was sore eyes or similar disorder occurring within the first four or five weeks of life.

thing, resulting in fact from this disease. It is possible also that the proportion set down to trachoma is too low, many of the cases enumerated as "sore eyes" being doubtless little else. Most of the remaining local disorders of the eye are of but very slight extent.

The general diseases which are definitely reported as being the cause of blindness are severally responsible for no great amount. The chief ones are, in order: measles (1.7 per cent), meningitis (1.2 per cent), scarlet fever (1.0 per cent), smallpox (0.8 per cent), typhoid fever (0.7 per cent), and influenza, or grippe (0.7 per cent). With measles, so far as it may be correctly reported, the immediate cause in most cases is probably corneal ulcer. Under meningitis are to be embraced many of the cases listed as "other diseases of the head," most being brain fever, and a few hydrocephalus and brain tumors—a large part of all being, as we have noticed, really atrophy of the optic nerve.[1]

After diseases and injuries, the causes of blindness are of miscellaneous character, all but a very small part being referred to as "indefinitely or inaccurately reported," most of which are some general disease. Of those causes definitely reported, there are, besides malformations, only two specific ones: poisoning (0.4 per cent), the real extent of which is doubtful, and foreign substances in the eye (0.7 per cent). Another cause assigned regarding the exact proportion of which uncertainty exists is military service (1.9 per cent). Under "congenital" (5.5 per cent) are included only those cases where no other specific cause was given. The other causes, so far as they have been stated, are old age (2.3 per cent), in large part really cataract; exposure to heat (1.5 per cent); catarrh and colds (1.2 per cent); neuralgia (2.6 per cent), in large part really glaucoma; paralysis (0.7 per cent); scrofula (0.8 per cent); sore eyes (3.1 per cent), in large part really trachoma; and strained eyes (0.8 per cent). The remaining causes of blindness are

[1] The figures for measles, typhoid fever, and influenza probably represent to some extent only conjectures.

unclassified, the result of a combination of causes, or unknown.[1]

With respect to sex, no great difference on the whole is found in the relative proportions of the several causes of blindness, except that among males injuries to the eye play a far larger part, and to a less extent atrophy of the optic nerve and trachoma, while among females glaucoma, together with neuralgia, and meningitis are of more common occurrence. It may also be noted that with the foreign-born blind injuries and cataract have a more pronounced effect than with the native born, the former chiefly because of the great numbers of the foreign born engaged in industry, especially in mining operations, and the latter because of the rather small proportions of the young among them.

With respect to the age when sight was lost, very marked variations are to be discovered. In the following table is shown the per cent distribution of the blind by the most important causes, according to the age of the loss of sight.

[1] "One fact which brings out clearly the unsatisfactory nature of the returns as to cause of blindness is the insignificant number of cases in which blindness was reported as due to venereal infection, particularly syphilis (excluding those due to ophthalmia neonatorum). Acquired syphilis is one of the leading causes of blindness in the early and middle years of adult life, and a certain proportion of cases at these ages are caused by gonococcus conjunctivitis, from gonorrheal infection, while hereditary syphilis is one of the chief etiological factors in causing blindness in infancy and early childhood. Notwithstanding these facts, however, . . . in only 63 cases was syphilis returned as cause, while in 83 cases the cause was stated as locomotor ataxia, which results ordinarily from syphilitic infection and which is frequently accompanied by atrophy of the optic nerve, making a total of 146 cases more or less directly traceable to this disease, in addition to which 22 cases were credited to gonococcus conjunctivitis. A certain proportion of the cases reported as due to atrophy of the optic nerve undoubtedly resulted from syphilis, and it is probable that a large proportion, perhaps most, of the cases where the cause was stated as spinal trouble were cases of locomotor ataxia. Syphilis, however, operates to produce blindness also through affections of the cornea, iris, retina, and choroid; but excluding the cases in which blindness was specifically indicated as due to corneal ulcer, detachment of the retina, retinitis pigmentosa, and retinitis hemorrhagica, the total number of cases in which blindness was attributed to a disease of one of these parts of the eye was only 219, some of these unquestionably being due to causes other than syphilis. It was of course hardly to be expected that any considerable number of the cases of blindness resulting from venereal infection would be so reported, since in very many such cases the blind person would either be unaware of the real cause or would be reluctant to acknowledge it." "The Blind in the United States," p. 99.

Causes of Blindness According to Age of Occurrence

	Total	Born blind	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 34	35 to 44	45 to 54	55 to 64	65 or over
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Definitely reported causes	52.5	13.9	62.2	64.5	67.5	61.8	60.3	57.4	56.8	53.8	53.5	48.5
Trachoma	1.5	....	0.8	1.1	2.3	2.6	2.3	2.2	1.9	2.3	1.1	0.9
Ophthalmia neonatorum	2.0	1.7	38.0	0.4	0.1	.....	.....	.....	.....	.....	.....	.....
Corneal ulcer	0.8	0.1	2.3	1.5	1.0	1.5	1.1	1.1	0.5	0.7	0.6	0.3
Glaucoma	3.4	....	....	0.4	0.4	0.7	1.1	1.3	3.1	6.0	8.7	4.0
Atrophy of optic nerve	6.2	1.3	1.7	2.8	4.5	4.1	5.8	6.5	11.8	10.2	8.0	4.7
Cataract	11.2	5.8	3.0	3.0	3.0	4.0	3.7	5.2	5.2	10.2	15.7	25.7
Typhoid fever	0.7	.....	0.4	1.7	1.7	2.0	1.7	1.1	0.8	0.5	0.5	0.3
Smallpox	0.8	.....	1.3	4.1	2.8	1.7	1.3	0.9	0.3	0.3	0.1	0.1
Measles	1.7	0.1	1.6	7.3	4.8	3.6	2.8	2.2	1.1	1.0	0.7	0.3
Scarlet fever	1.0	....	1.3	7.3	5.9	2.4	1.9	0.6	0.2	0.1	0.1	.....
Influenza (grippe)	0.7	....	0.4	0.6	0.5	0.3	0.5	0.4	0.8	1.0	1.3	1.0
Meningitis	1.2	....	2.0	8.1	5.9	3.3	3.0	0.6	0.4	0.1	0.1	.....
Other diseases of the head	1.3	0.3	3.7	6.1	3.8	3.1	2.1	0.9	0.8	0.5	0.5	0.1
Accident or other injury	13.5	0.2	1.3	14.2	25.8	26.5	27.3	26.4	20.2	12.6	9.0	5.4
From burns	0.6	....	0.4	1.3	0.5	0.7	0.9	1.0	0.9	0.6	0.3	0.2
From firearms	1.6	....	....	0.7	1.4	4.6	7.1	4.9	2.0	0.9	0.4	0.2
From cutting or piercing instruments	0.8	.....	....	3.3	6.0	2.8	1.4	0.5	0.3	0.2	0.1	.....
From explosives	2.5	.....	....	0.4	1.7	4.1	4.4	8.6	5.0	2.3	0.9	0.2
From flying objects	1.2	....	....	0.7	1.5	1.3	1.7	1.7	1.9	1.7	1.4	0.9
From falls	0.9	.....	0.3	2.2	2.6	1.6	0.7	0.6	1.0	0.8	0.6	0.7
All other	6.0	0.2	0.6	5.7	12.1	11.5	11.2	9.1	9.1	6.1	5.2	3.2
Foreign substances in the eye	0.7	.....	....	0.5	0.5	0.7	0.5	1.0	1.1	1.2	1.0	0.5
All other	5.9	4.5	4.4	5.4	4.3	5.3	5.2	7.0	8.6	7.1	6.2	4.3
Causes indefinitely reported	35.5	85.2	29.0	28.1	25.1	29.8	29.9	32.2	31.9	34.7	32.3	36.0
Congenital	5.5	84.3	....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Exposure to heat	1.5	.....	....	0.2	0.3	0.5	0.9	1.8	2.0	2.8	2.1	2.0
Military service	1.9	.....	.....	.....	.....	.....	0.7	2.2	1.9	2.6	3.7	2.5
Neuralgia	2.6	0.1	0.4	0.4	0.7	0.8	1.7	3.6	3.2	4.6	4.7	2.4
Old age	2.3	.....	....	....	.....	.....	.....	.....	.....	0.1	0.5	10.3
Paralysis	0.7	.....	0.4	0.2	0.5	0.4	0.5	0.7	0.9	0.8	0.8	1.0
Scrofula	0.8	0.2	1.2	1.9	2.1	2.2	2.1	1.2	0.5	0.7	0.2	0.2
Sore eyes	3.1	0.1	8.2	6.0	5.5	8.0	5.9	4.7	2.7	2.2	1.5	1.0
Strained eyes	0.8	.....	.....	.....	0.1	0.2	0.4	0.5	0.6	0.9	1.2	1.6
All other	16.3	0.6	18.7	19.4	10.0	17.3	17.6	17.5	20.2	19.9	17.6	15.0
Combination of different classes of causes	1.5	....	0.1	0.7	1.0	1.1	2.2	1.8	1.6	1.0	2.3	1.7
Cause unknown	10.5	0.9	8.7	6.8	6.4	7.3	7.6	8.0	9.7	9.6	11.9	13.8

Of the blindness denoted as congenital the leading cause is cataract, after which come malformations, ophthalmia neonatorum, and atrophy of the optic nerve.[1] Of blindness occurring during the first year of life, the order is ophthalmia neonatorum, sore eyes, hydrocephalus and brain fever (included under "other diseases of the head," and probably in most cases atrophy of the optic nerve), cataract, and corneal ulcer (perhaps in large part ophthalmia neonatorum)—with the first named disease far in the front. From the first to the fourth year external injuries hold the initial place, followed at some distance by meningitis, measles, scarlet fever, other diseases of the head, sore eyes, smallpox, cataract, and atrophy of the optic nerve. From the fifth to the ninth year external injuries are still far ahead, succeeded by meningitis, scarlet fever, sore eyes, measles, and atrophy of the optic nerve, most of which diseases are rather close together. From the tenth to the fourteenth year, after injuries, the principal causes are sore eyes, atrophy of the optic nerve, cataract, and measles, with other affections not greatly removed. From the fifteenth to the nineteenth year the order is, with injuries still to the fore, sore eyes, atrophy of the optic nerve, cataract, and meningitis, other diseases following apace.

With blindness occurring from the twentieth to the thirty-fourth year, external injuries are again found far at the head of the column, the chief causes next in order being atrophy of the optic nerve, cataract, sore eyes, and neuralgia. From the thirty-fifth to the forty-fourth year the lead is still with external injuries, though this is now being cut; among diseases atrophy of the optic nerve is well in the first place, followed by cataract, and glaucoma, together with neuralgia. From the forty-fifth to the fifty-fourth year injuries are barely holding priority, cataract and atrophy, which are tied, being but little behind, with

[1] In most cases, ophthalmia neonatorum was probably wrongly reported. Among the important causes of congenital blindness and often of that occurring in childhood, hydrophthalmus (megalophthalmus, buphthalmus) is not reported at all.

glaucoma and neuralgia coming next. From the fifty-fifth to the sixty-fourth year cataract passes to the head of the column, external injuries falling to second place, after which are ranged glaucoma, atrophy of the optic nerve, and neuralgia. After the sixty-fifth year cataract far outdistances all other causes of blindness, succeeded by old age, after which are found, at some interval, and with little difference, external injuries, glaucoma, and atrophy of the optic nerve.

To put the matter somewhat differently, external injury constitutes the most important cause of blindness through the greater part of life, or from the first to the fifty-fourth year. From the first year it increases gradually to the nineteenth year, or to the beginning of adult life, after which it almost as gradually decreases. From the fifth to the thirty-fouth year it is responsible for more than one-fourth of all blindness. In the first decade it is manifested most frequently from cutting and piercing instruments, and in the second from firearms; while from the twentieth to the fifty-fourth year, or practically through the working period of life, it results most often from explosives. Cataract appears in all the age groups as a not unimportant cause of blindness. Of varying, but rather low, proportions in early life, it increases rapidly after the forty-fifth year, assuming first place as a cause of blindness with the fifty-fifth year, and probably being chargeable with the majority of the cases in extreme old age. In atrophy of the optic nerve there is a gradual gain from the start to the thirty-fourth year, or to what may be considered mid-life. During the following decade it shows a very great rise, becoming, with cataract, next to the leading cause of blindness. After this period it slowly declines. Glaucoma does not make an appearance until after the first year of life, when it steadily increases almost to the end, showing a decrease only after the sixty-fifth year. The same is practically true of its kindred affection, neuralgia, except that the latter is found from the beginning. Ophthalmia neonatorum is

naturally confined all but exclusively to the first year of life. Trachoma is fairly constant through all the age periods, except at birth, though it is seemingly most extensive from the fifth to the fifty-fourth year. A similar showing is presented for sore eyes, in large part an equivalent disorder, except that the latter begins to lose strength after the thirty-fifth year. Corneal ulcer prevails mainly in childhood and youth. This is also largely the case with the general diseases reported as causing blindness, in the main exanthematic in character, such as measles, smallpox, meningitis, scarlet fever, and others.

Finally, there may be summarization as to the three general age periods of life in which the several causes of blindness are found most often to operate—namely, childhood and youth, or under twenty years; adult life, excepting old age, or from twenty to sixty-four; and old age, or over sixty-four. Of the blindness occurring under the twentieth year, comprising a little less than a third (30.6 per cent) of all, the leading causes in order are: congenital (cause not stated), 18.2 per cent; external injuries, 14.3 per cent; ophthalmia neonatorum, 6.6 per cent; sore eyes, 5.3 per cent; cataract, 3.9 per cent; meningitis, 3.4 per cent; measles, 3.2 per cent; atrophy of the optic nerve, 3.2 per cent; other diseases of the head, 3.0 per cent; scarlet fever, 3.0 per cent; smallpox, 1.6 per cent; scrofula, 1.5 per cent; trachoma, 1.4 per cent; corneal ulcer, 1.2 per cent; and typhoid fever, 1.2 per cent. Of blindness occurring between the twentieth and the sixty-fourth year, comprising nearly one-half (47.5 per cent) of all, the leading causes are: external injuries, 16.9 per cent; cataract, 9.1 per cent; atrophy of the optic nerve, 9.0 per cent; glaucoma, 4.8 per cent; neuralgia, 4.0 per cent; sore eyes, 2.8 per cent; military service, 2.6 per cent; exposure to heat, 2.1 per cent; trachoma, 1.8 per cent; measles, 1.3 per cent; and foreign substances in the eye, 1.0 per cent. Of blindness occurring after the sixty-fifth year, comprising a little more than one-fifth (21.9 per cent) of all, the leading causes are: cataract,

25.7 per cent; old age, 10.3 per cent; external injuries, 5.4 per cent; glaucoma, 4.9 per cent; atrophy of the optic nerve, 4.8 per cent; military service, 2.8 per cent; neuralgia, 2.4 per cent; exposure to heat, 2.0 per cent; strained eyes, 1.8 per cent; influenza (grippe), 1.0 per cent; and paralysis, 1.0 per cent.

Stated with respect to the several foremost causes, the respective proportions, in percentages for these three periods, are as follows: trachoma, 28.9, 58.2, and 12.9; ophthalmia neonatorum, 99.8, 0.2, and 0.0; glaucoma, 3.4, 65.5, and 31.1; atrophy of the optic nerve, 15.6, 67.8, and 16.6; cataract, 10.6, 39.3, and 50.1; smallpox, 70.4, 26.9, and 2.7; measles, 59.7, 36.8, and 3.6; scarlet fever, 87.7, 11.7, and 0.7; meningitis, 87.9, 12.1, and 0.0; other diseases of the head, 73.4, 24.5, and 2.2; and external injuries, 32.2, 59.1, and 8.7.

So far as the relation may be discovered of the time of life at which occurred the loss of sight to the part of the eye affected, it seems that when the disorder has connection with the conjunctiva or the cornea (such being apparently the case also with most of the diseases of a general nature alleged to be causes, especially as regards the cornea), blindness is likely to result the more often in early life; and that when the disorder has connection with the lens, the retina, or the optic nerve, blindness is likely to come the more frequently in later life.[1]

Somewhat further light is thrown on the causation of blindness by an examination of the occupations from which

[1] In an analysis of the returns of the census of 1900, a connection is to be discerned between the degree of blindness, that is, whether "total" or "partial," and the kind of disease involved. The diseases which cause a greater amount of total blindness than they do of partial blindness, with the percentage of total blindness due to each, are as follows: meningitis (80.8), glaucoma (76.4), congestion or diseases of brain (75.7), scarlet fever (72.5), smallpox (71.2), venereal diseases (67.7), external injuries (66.7), neuralgia (65.5), grippe (61.5), colds (61.2), sore eyes (56.3), exposure to heat and cold (50.7), strained eyes (50.2), and cataract (50.2). The diseases causing a greater amount of partial blindness, with the percentage thereof in each case, are as follows: granulated lids, or trachoma (69.4), old age (63.4), scrofula (60.0), catarrh (55.0), measles (54.3), military service (51.1), and congenital (51.0). It seems thus that the milder the form of attack, or the more gradual the approach, of the disease, the less likely is total blindness to be the outcome.

the present blind population may be said to be recruited. In the following table are shown, for males and for females, the percentages of the general population in the several industrial divisions, and the percentages of the blind having been engaged in these divisions prior to the oncoming of their blindness, as reported in the special schedules returned by 11,566 males and 2,463 females in connection with the census of 1910.[1]

PROPORTION OF THE BLIND FORMERLY ENGAGED, AND OF THE GENERAL POPULATION NOW ENGAGED, IN THE SEVERAL INDUSTRIAL PURSUITS

	MALES		FEMALES	
	General population	*Blind*	*General population*	*Blind*
Total	100.0	100.0	100.0	100.0
Agriculture, forestry, and animal husbandry	36.1	44.7	22.4	24.0
Extraction of minerals	3.2	5.1	.....	0.1
Manufacturing and mechanical pursuits	29.4	20.5	22.5	20.7
Transportation	8.4	5.9	1.3	0.3
Trade	10.5	5.8	5.8	1.8
Public service	1.5	0.9	0.2	0.1
Professional service	3.1	3.0	9.1	5.4
Domestic and personal service	4.1	2.6	31.3	44.7
Miscellaneous	3.7	11.5	7.4	2.2

In those pursuits where the proportion of the blind formerly engaged is in excess of that for the general population now engaged, we have, theoretically, the pursuits in which blindness is relatively more liable to occur, and which in consequence carry the greater hazard to the eye. To the proportions regarding agriculture and allied industries, perhaps little importance should be attached, as these embrace many persons in the advanced years of life, at which time loss of sight is especially likely to come about. The figures of most significance probably relate to the enhanced risks of blindness for males in the extraction of minerals, and for females in domestic and personal service, the increase being from 3.2 per cent to 5.1 per cent in the one case, and from 31.3 per cent to 44.7 per cent in the other. The apparently lessened risk in connection with manufacturing and mechanical pursuits is rather surprising, though we may regard it as applying to some forms only, and not to all.

[1] "The Blind in the United States," pp. 150–159, 258–281.

In a consideration of the leading specific occupations in which persons now blind were once employed, in conjunction with the age period at which their blindness occurred, we may possibly approach more closely to the discovery of the influence which particular callings possess with respect to the safety of the vision. In the accompanying table are arranged in order the occupations, with the percentage distribution, in which one hundred or more male blind persons, or 0.8 per cent, representing 76.1 per cent of all, were engaged prior to the oncoming of their affliction, together with the general age at which this took place.

MALE BLIND ACCORDING TO OCCUPATIONS IN WHICH THEY WERE FORMERLY ENGAGED, AND WITH RESPECT TO AGE AT WHICH BLINDNESS OCCURRED

	Distribution	AGE OF LOSS OF SIGHT		
		20 to 44	*45 to 64*	*65 or over*
Total	100.0	38.4	34.5	27.0
Farmers, planters, fruit growers, etc	37.9	30.6	34.2	35.2
Laborers (not otherwise specified)	8.7	43.6	36.3	20.0
Agricultural laborers	4.9	61.0	23.1	15.9
Carpenters	3.6	26.3	34.8	38.9
Retail merchants and dealers (other than hucksters and peddlers	2.9	31.9	42.7	25.4
Steam railroad employees	2.4	54.7	30.9	14.4
Mine workers other than in coal mines	2.3	71.5	20.3	8.2
Coal mine workers	1.8	59.6	32.0	8.4
Iron and steel workers	1.8	49.3	30.2	20.6
Drivers, draymen, teamsters, and expressmen	1.7	42.8	42.9	14.3
Blacksmiths	1.6	28.8	27.2	44.0
Masons (stone and brick)	1.3	30.3	33.1	36.6
Salesmen and clerks (in stores)	0.9	60.7	29.0	10.3
Painters, glaziers, and varnishers	0.9	35.3	44.8	20.9
Shoemakers and cobblers (not in factories)	0.9	21.3	34.3	44.4
Quarry workers	0.9	64.1	29.2	6.6
Machinists (not otherwise specified)	0.9	50.0	37.0	13.0
Stock raisers, herders, etc	0.8	28.1	43.8	28.1

In this table there is set forth roughly the relative order of the occupations in which blindness occurs, and the proportion which is to be expected from each, though there is to a considerable extent but reflected the order in which the occupations are engaged in by the general population. The better index, however, to indicate the bearing which the different ones have upon the loss of sight is found in the general age at which this has occurred among those who have once been employed in them. As 38.4 per cent of the loss of vision in all occupations happens in early

adult life, in the chief working years, or from the twentieth to the forty-fourth year, and as 27.0 per cent happens in the advanced years of life, or after the sixty-fifth year, we may take a larger proportion in a particular occupation in the former period and a smaller one in the latter, to mean an increased liability to eye accidents therein.[1] The industrial hazard is thus seen to be most marked with the two classes of miners, namely, those in other than coal mines and those in coal mines, and with quarry workers, the proportions becoming blind under the age of forty-five being from three-fifths to seven-tenths (71.5 per cent, 59.6 per cent, and 64.1 per cent, respectively), and the proportions becoming blind above the age of sixty-four being less than one-eighth (8.2 per cent, 8.4 per cent, and 6.6 per cent, respectively). Of agricultural laborers and of salesmen and clerks, some three-fifths (61.0 per cent and 60.7 per cent, respectively) were deprived of vision before the forty-fifth year, and less than one-sixth (15.9 per cent and 10.3 per cent, respectively) after the sixty-fifth year—to be accounted for in part at least by the general low age of persons in these pursuits. Definite occupational risk is also revealed in the case of machinists, iron and steel workers, steam railroad employees, and laborers not otherwise specified, the proportions becoming blind under forty-five years of age ranging from somewhat less than one-half to a little more than one-half (50.0 per cent, 49.3 per cent, 54.7 per cent, and 43.6 per cent, respectively), and the pro-

[1] "The age when vision was lost by persons in the respective occupations before blindness is determined to a considerable extent by the age of those carrying on the occupations in question in the general population. It is apparent that the proportion losing sight in the early or middle years of adult life will be much higher for an occupation in which most of those engaged are less than 45 years of age than for one in which a considerable number have passed that age. At the same time, as the incidence of blindness is comparatively low up to the age of 40 or 45, a large representation from an occupation carried on mainly by young adults, combined with an exceptionally high percentage losing sight during the earlier period of adult life for that occupation, will probably in the majority of cases indicate either that there is special occupational risk of blindness, or else that those engaged in the occupation are for other reasons, such as the localities in which they are mainly found or their social status, especially liable to certain affections of the eye which in themselves have no occupational origin." "The Blind in the United States," p. 158.

portions becoming blind above sixty-four years ranging from one-eighth to one-fifth (13.0 per cent, 20.6 per cent, 14.4 per cent, and 20.0 per cent, respectively).

The following table gives a similar showing in respect to occupations in which ninety-two or more females, or 3.7 per cent, representing 86.3 per cent of the entire number, are reported to have been previously engaged.

FEMALE BLIND ACCORDING TO OCCUPATIONS IN WHICH THEY WERE FORMERLY ENGAGED, AND WITH RESPECT TO AGE AT WHICH BLINDNESS OCCURRED

	Distribution	Age of Loss of Sight		
		20 to 44	45 to 64	65 or over
Total	100.0	32.9	35.0	31.2
Servants (other than cooks) and waitresses	21.9	40.5	31.5	28.0
Agricultural laborers	13.0	35.2	34.3	30.5
Farmers, planters, fruit growers, etc	11.1	14.7	33.1	52.2
Laundresses	10.0	31.0	46.1	22.9
Cooks	6.8	29.9	35.9	34.1
Seamstresses	5.8	31.5	38.5	30.1
Dressmakers	5.8	37.9	36.5	25.5
Professors, school principals, and teachers	4.3	49.1	35.3	15.7
Nurses and midwives	3.9	22.9	34.4	42.7
Textile industries workers	3.7	26.7	33.3	40.0

A very important connection is also to be found between the occupations in which the blind were formerly engaged and certain specific causes of blindness. So far as there may be discerned any considerable increase in the proportion of blindness from a particular cause in a given occupation over the proportion existing for all occupations, we may infer that, in the absence of other contributing influences, there is special visional risk in such occupation. In the following scheme are presented, for males and for females, the principal causes of blindness, with the general proportions in percentages ascribed to each, and with the proportions for occupations which are appreciably higher.

MALES

Trachoma, 1.5: stock raisers, etc., 4.0; farmers, etc., 2.4; agricultural laborers, 2.3; shoemakers and cobblers, 1.9.

Corneal ulcer, 0.6: stock raisers, etc., 2.0; carpenters, 1.0.

Diseases of the iris, 0.6: salesmen and clerks, 3.7; retail merchants and dealers, 1.2.

Glaucoma, 3.2: printers and bookbinders, 12.7; retail merchants and dealers, 9.8; cigar and tobacco workers, 9.6; persons in professional service, 9.1; shoemakers and cobblers, 7.4; machinists, 6.7; salesmen and clerks, 6.5; painters, glaziers, and varnishers, 6.5; carpenters, 3.9.

Atrophy of the optic nerve, 8.6: printers and bookbinders, 25.4; salesmen and clerks, 21.3; machinists, 21.2; drivers, etc., 19.4; painters, glaziers, and varnishers, 18.5; persons in domestic and personal service, 17.3; persons in professional service, 15.4; cigar and tobacco workers, 15.4; retail merchants and dealers, 14.6; steam railroad employees, 12.4; shoemakers and cobblers, 11.1; carpenters, 10.1.

Cataract, 11.9: blacksmiths, 18.1; shoemakers and cobblers, 17.6; cigar and tobacco workers, 17.3; carpenters, 16.2; farmers, etc., 14.7; masons, 13.2; painters, glaziers, and varnishers, 13.0.

Typhoid fever, 0.7: iron and steel workers, 2.0; salesmen and clerks, 1.9; laborers not otherwise specified, 1.1.

Measles, 0.9: agricultural laborers, 2.1; blacksmiths, 1.6; steam railroad employees, 1.4.

Influenza, 0.6: salesmen and clerks, 2.8; retail merchants and dealers, 1.2.

Locomotor ataxia, 0.6: salesmen and clerks, 5.6; drivers, etc., 1.6; retail merchants and dealers, 1.2; steam railroad employees, 1.1.

Kidney disease and diabetes, 0.5: retail merchants and dealers, 1.2; drivers, etc., 1.0.

External injuries, 19.5: quarry workers, 84.3; mine workers other than in coal mines, 73.9; coal mine workers, 64.6; iron and steel workers, 39.1; steam railroad employees, 32.3; machinists, 31.7; blacksmiths, 26.1; masons, 21.5; agricultural laborers, 21.3; laborers not otherwise specified, 21.2.

Burns, 0.8: iron and steel workers, 9.4; blacksmiths, 3.2; steam railroad employees, 1.8.

Firearms, 2.5: agricultural laborers, 6.5; machinists, 4.8; painters, glaziers, and varnishers, 4.6; salesmen and clerks, 3.7.

Explosives, 4.9: quarry workers, 72.2; mine workers other than in coal mines, 54.1; coal mine workers, 26.2; workers in chemical and allied industries, 18.8; steam railroad employees, 11.3; masons, 9.0; clay, glass, and stone workers, 6.3.

Other explosions, 0.5: iron and steel workers, 5.4; coal mine workers, 2.4; machinists, 1.9.

Explosions of a nature not stated, 0.5: mine workers other than in coal mines, 7.4; coal mine workers, 6.8; quarry workers, 2.8;

iron and steel workers, 1.0; machinists, 1.0; painters, glaziers, and varnishers, 0.9.

Flying objects other than in explosions, 2.2: machinists, 9.6; coal mine workers, 9.2; iron and steel workers, 7.9; workers in lumber industries, 5.4; blacksmiths, 5.3; steam railroad employees, 5.3; clay, glass, and stone workers, 4.3; quarry workers, 2.8; carpenters, 2.7.

Falls, 0.8: drivers, etc., 3.1; retail merchants and dealers, 2.4; stock raisers, etc., 2.0; machinists, 1.9; carpenters, 1.4.

Poisoning, 0.8: workers in chemical and allied industries, 18.8; painters, glaziers, and varnishers, 13.9; clothing workers, 3.6; retail merchants and dealers, 1.2.

Acids and other substances of chemically destructive nature in the eye, 0.6: workers in chemical and allied industries, 25.0; plasterers, 20.0; masons, 4.9; laborers not otherwise specified, 1.1; agricultural laborers, 1.0.

Dust and other foreign particles in the eye, 0.7: masons, 2.8; quarry workers, 1.9; iron and steel workers, 1.5; steam railroad employees, 1.4; laborers not otherwise specified, 1.1; agricultural laborers, 1.1; coal mine workers, 1.0.

Catarrh and colds, 1.0: drivers, etc., 2.1; machinists, 1.9; farmers, etc., 1.4.

Exposure to heat, 2.4: blacksmiths, 10.6; iron and steel workers, 8.9; clay, glass, and stone workers, 8.6; steam railroad employees, 4.6; masons, 4.2.

Military service, 4.5: shoemakers, 7.4; farmers, etc., 7.1; masons, 6.3; machinists, 5.8.

Neuralgia, 2.1: farmers, etc., 3.5; drivers, etc., 3.1; stock raisers, etc., 3.0; agricultural laborers, 3.0.

Old age, 2.0: stock raisers, etc., 4.0; farmers, etc., 3.0; carpenters, 2.9.

Paralysis, 0.8: masons, 2.1; retail merchants and dealers, 2.1; carpenters, 1.7; drivers, etc., 1.6; mine workers other than in coal mines, 1.2.

Sore eyes, 2.2: agricultural laborers, 5.6; farmers, etc., 3.2; drivers, etc., 3.1.

Strained eyes, 1.0: persons in professional service, 6.5; shoemakers, 3.7; stock raisers, etc., 2.0.

FEMALES

Trachoma, 1.1: teachers, etc., 1.9; agricultural laborers, 1.6; servants and waitresses, 1.5.

Corneal ulcer, 0.5: laundresses, 1.2.

Diseases of the iris, 0.7: teachers, etc., 4.7; farmers, etc., 1.1.

Glaucoma, 5.0: dressmakers, 10.6; teachers, etc., 8.5; workers in textile industries, 7.6; seamstresses, 7.0; nurses and midwives, 6.1.

Atrophy of the optic nerve, 4.6: teachers, etc., 11.3; seamstresses, 9.8: nurses and midwives, 7.2; dressmakers, 6.4.

Cataract, 15.1: laundresses, 19.4; farmers, etc., 18.2; nurses and midwives, 17.4: servants and waitresses, 17.1.

Measles, 0.9: teachers, etc., 1.9; agricultural laborers, 1.3; servants and waitresses, 1.3.

Influenza, 1.4: dressmakers, 3.5; seamstresses, 2.8; servants and waitresses, 1.7.

Diseases of the head other than meningitis, 0.9: servants and waitresses, 1.3.

Kidney disease and diabetes, 0.5: seamstresses, 1.4.

External injuries, 5.0: teachers, 7.5; cooks, 5.4.

Flying objects other than in explosions, 0.8: agricultural laborers, 1.6.

Falls, 0.7: teachers, etc., 0.9; servants and waitresses, 0.9.

Catarrh and colds, 1.4: seamstresses, 3.5; servants and waitresses, 2.6.

Exposure to heat, 4.2: cooks, 31.0; servants and waitresses, 5.4; laundresses, 4.8.

Neuralgia, 5.4: agricultural laborers, 10.9; farmers, etc., 7.7; workers in textile industries, 7.6; nurses and midwives, 6.1.

Old age, 5.0: farmers, etc., 10.9; agricultural laborers, 6.9; servants and waitresses, 6.3.

Paralysis, 0.9: servants and waitresses, 1.5; cooks, 1.2; laundresses, 1.2.

Sore eyes, 2.4: agricultural laborers, 4.7; seamstresses, 3.5; servants and waitresses, 3.2; farmers, 2.9.

Strained eyes, 2.5: seamstresses, 15.4; dressmakers, 9.2; teachers, etc., 7.5; nurses and midwives, 3.1.

It is not easy in every instance to determine why there should be greater liability to blindness from particular causes, especially diseases, in certain occupations than in others. In some cases we may not be far wrong in assuming that the higher proportions are little more than the reflection of the general tendency for given diseases to operate at particular age periods. In other cases the real connection between the cause of blindness and occupation may be found to be of a more intimate nature than we may now predicate.

With cataract the tendency just referred to may be said to have an illustration, the high rates from the occupations enumerated for it doubtless in large part being accounted for by the relatively large numbers of persons in advanced years in them, at which period this disease becomes most active. The same is also true to a considerable extent with glaucoma, and with its kindred affection, neuralgia, though among a few occupations it seems more probable that there are also other factors involved. In respect to atrophy of the optic nerve it may be that, so far as concerns occupations which are mainly confined to cities, the original and underlying cause is venereal affection—a theory which is in greater or less degree borne out by the existence of locomotor ataxia largely among persons whose residence is urban. The prevalence of trachoma, and of its concomitant disorder, "sore eyes," among persons in agricultural pursuits is chiefly because the seat of these diseases is for the most part in rural sections.

The most pronounced indication of the bearing of specific employments upon the loss of sight is met in the matter of accidents to the eye occasioned in industrial operations. In certain occupations the exposure of the workers to such injury is plainly evident. In mining and quarrying the proportions made blind by accident are several times greater than the normal proportions; while in several other occupations, especially in those of mechanical character, the proportions are considerably enlarged. In the particular forms of accidents the industrial hazard is no less apparent, whether from explosions of various kinds, burns, flying objects, or falls; or whether from occurrences not directly listed as accidents, but closely bordering thereupon, such as poisoning, exposure to heat, harmful chemical substances, the introduction into the eye of foreign particles, and strained eyes.[1]

In addition to the returns of the United States census, we have the results of several other investigations of the causes

[1] The causes of blindness from accidents are further analyzed in Chapter IX.

of blindness, which may be presented on somewhat different bases. The following table gives the leading causes of blindness for 5,308 cases, as found by the Commission for the Blind of the State of New York in 1906.[1]

CAUSES OF BLINDNESS IN NEW YORK

	Number	Per cent		Number	Per cent
Total	5,308	100.0	Tumors	18	0.3
Occurring under one year	681	12.5	Accidents	874	16.5
Congenital	404	7.6	Blows	152	2.9
Inflammatory diseases	191	3.6	Falls	67	1.3
Accidents	12	0.2	Chemical	51	0.9
Other causes	74	1.2	Explosions	132	2.5
Occurring after one year	3,373	63.6	Thermal	35	0.7
Inflammatory diseases	2,481	46.9	Foreign bodies in eye, and traumatic	178	3.4
Conjunctivitis, trachoma, and ophthalmia neonatorum	182	3.4	Shots	51	0.9
Keratitis	41	0.8	Other foreign bodies, and traumatic	127	2.5
Glaucoma	203	3.9	Other accidents	224	4.3
Cataract	888	16.7	Constitutional diseases	116	2.2
Retinitis	22	0.4	Syphilis	40	0.8
High myopia	122	2.3	Rheumatism	30	0.5
Atrophy	476	8.9	Other constitutional diseases	46	0.9
Meningitis	145	2.8	Unclassified	1,138	21.5
Measles	92	1.7	Old age	52	1.0
Scarlet fever	108	2.0	Other unclassified causes	1,086	20.5
Smallpox	32	0.5			
Other inflammatory diseases	170	3.3			

The causes for 1,620 cases, as discovered by the Commission of Ohio in 1908 for eleven counties of that State, are shown in the following table.[2]

CAUSES OF BLINDNESS IN OHIO

	Number	Per cent		Number	Per cent
Total	1,620	100.0			
Congenital	121	7.5	Heredity	3	0.2
Early infantile inflammations, including ophthalmia neonatorum	215	13.3	Typhoid fever	11	0.6
			Scarlet fever	12	0.7
			Rheumatism	6	0.4
Local diseases or inflammations later in life (except optic and retinal atrophy, and choroidal diseases)	151	9.3	Bright's disease	2	0.1
			Influenza	3	0.2
			Smallpox	20	1.2
Optic and retinal atrophy, and choroidal diseases	143	8.9	Childbirth	4	0.3
			Mumps	1	0.1
Accidents or sympathetic ophthalmia	122	7.5	Whooping cough	2	0.1
			Other diseases, or diseases not definitely known	48	2.9
Result of systemic disease	182	11.2	Old age or senility	31	1.9
Syphilis	26	1.6	Cataract (all ages)	162	10.0
Locomotor ataxia	7	0.4	Optic atrophy (old age)	67	4.1
Meningitis	15	0.9	Glaucoma	59	3.6
Paralysis	22	1.4	Causes not definitely stated	357	22.0

[1] Report, 1906, pp. 555–582.

[2] Report, 1908, p. 21.

In the next table appear the results of an investigation of 306 cases by the Commission of Massachusetts in 1909.[1]

CAUSES OF BLINDNESS IN MASSACHUSETTS

	Number	Per cent		Number	Per cent
Total	306	100.0	Keratitis	11	3.6
Congenital	21	6.8	Leucomata	11	3.6
Cataract	5	1.6	Ophthalmia neonatorum	14	4.5
Optic atrophy	3	1.0	Optic atrophy	43	14.0
Miscellaneous	13	4.2	Phthisis bulbi	7	2.3
Acquired diseases, general	7	2.3	Retinal separation	7	2.3
Acquired diseases of the eye	235	76.8	Retinitis	4	1.3
Blocked pupil	5	1.6	Staphyloma	3	1.0
Cataract	20	6.5	Trachoma	6	2.0
Conjunctivitis	6	2.0	Ulcers	4	1.3
Corneal affections	4	1.3	Vitreous	3	2.0
Glaucoma	47	15.3	Miscellaneous	20	6.5
Irido-cyclitis	8	2.6	Accidents and disease	19	6.2
Iritis	12	3.9	Accidents	24	7.8

The following table will show the causes of blindness, whether congenital, from disease, or from accident, for 3,806 cases, according to present age, as found by the same Commission in 1907.[2]

[1] Report, 1909, p. 27.

[2] Report, 1907, p. 15. In a study of 1,000 cases of blindness by the New York Committee for the Prevention of Blindness from 1906 to 1911, it was found that 5.2 per cent were congenital, 78.9 per cent from disease, and 15.9 per cent from accidents. Report, 1911, p. 10. Of 3,336 pupils enrolled in thirty-four schools for the blind in 1916–1917, the percentage blind from ophthalmia neonatorum was 23.8; from accidents, 12.0; from progressive nearsightedness, 3.9; from trachoma, 1.7; from interstitial keratitis, 5.9; from atrophy of the optic nerve, 10.0; from other congenital defects, 28.4; and from other causes, 16.1. *Ibid.*, 1917, p. 13; *News Letter*, Oct., 1917; *Outlook for the Blind*, x., 1918, p. 93. Of 301 cases of practical blindness in hospitals in Boston in 1908 and 1909, 15.3 per cent were due to glaucoma; 12.0 per cent, to injuries; 11.6 per cent, to atrophy of the optic nerve; 13.6 per cent, to uveitis; 2.3 per cent, to trachoma; 6.0 per cent, to syphilis; 4.3 per cent, to opththalmia neonatorum; 10.0 per cent, to corneal affections (except trachoma, interstitial keratitis, and gonorrheal conjunctivitis); and 24.9 per cent, to other causes. *Journal of American Medical Association*, lxi., 1913, p. 1156. See also *ibid.*, lxiii., 1914, p. 1756; American Encyclopedia of Ophthalmology, 1916, ii., p. 1171. Of 545 applicants for pensions in one county in Ohio in 1913, the cause of blindness in 6.0 per cent was ascribed to ophthalmia neonatorum; in 3.1 per cent, to corneal ulcers; in 14.7 per cent, to infectious diseases (in 5.5 per cent, to trachoma); in 13.9 per cent, to acquired syphilis; in 8.4 per cent, to hereditary syphilis; in 4.4 per cent, to high myopia; in 10.5 per cent, to accidents; in 10.0 per cent, to glaucoma; in 20.4 per cent, to arterio-sclerosis; and in 23.3 per cent, to other causes. *Lancet-Clinic*, cx., 1913, p. 487.

CAUSES OF BLINDNESS IN MASSACHUSETTS

ACCORDING TO PRESENT AGE

	TOTAL		CONGENITAL		DISEASE		ACCIDENT		ACCIDENT AND DISEASE		UNKNOWN	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	3,806	100.0	257	6.8	2,373	62.3	479	12.6	32	0.9	665	17.4
Under 20	434	100.0	112	25.8	186	42.9	47	10.9	2	0.4	87	20.0
20–39	566	100.0	82	14.4	311	55.0	85	15.0	2	0.4	86	15.2
40–59	835	100.0	32	3.9	491	58.8	142	17.0	8	1.0	162	19.3
60–79	1,411	100.0	25	1.7	951	67.5	169	12.0	15	1.1	251	17.7
80 or over	560	100.0	6	1.1	434	77.5	36	6.4	5	0.9	79	14.1

EXTENT TO WHICH BLINDNESS MAY BE PREVENTED

How much of all this blindness is it possible to prevent? Provided that we had sufficient medical knowledge and sufficient control over sanitary conditions, the answer might be said to be—nearly all of it. But in our immediate discussion of the subject we need confine ourselves only to that blindness for which there at present exists known means of practical application. Not a few cases of threatened blindness, to begin with, from one cause and another might be warded off by timely and skilled treatment, medical or surgical. Material headway could also be made, we may be sure, towards the avoidance of blindness from certain general diseases of infectious character, such as scarlet fever, measles, meningitis, mumps, smallpox, typhoid fever, and other similar ones, most of which belong to infancy and adolescence, some being more or less common diseases of children, by the giving of proper attention, together with due isolation where necessary. For a very considerable portion of blindness venereal diseases in particular are directly responsible, and indirectly for a possibly larger portion. Next, there are amenable to appropriate treatment several specific diseases of a local nature which play a great part in the destruction of the sight. These are in the main cataract, glaucoma, ophthalmia neonatorum,

and trachoma, which "can, in the great majority of cases, be easily arrested, either by the employment of proper measures of prophylaxis or by prompt recourse to medical or surgical relief." [1] The diseases most readily within our control are ophthalmia neonatorum, or "babies' sore eyes," and trachoma, both preventable without great difficulty. There are two other infectious eye diseases, namely, keratitis and conjunctivitis, damage from which may be avoided by comparatively simple precautions. After these diseases there come sundry accidents and injuries to the eye of external character, including eyestrain, very many of which are preventable by the exercise of sufficient care or by the employment of proper safeguards. Finally, with respect to the large amount of blindness which is a concomitant or result of old age, or with respect to the smaller amount which arises from apparently unavoidable diseases, there would be a substantial lessening if surroundings and modes of life, or general health conditions, were in all cases improved. Such in the main are the causes of blindness of which to a greater or less extent we now seem able to gain control, or which we seem most sure of being able to arrest. Others may in part be found in some measure susceptible of prevention, though the necessary means are not so well recognized, or are at present not so available.[2]

To state the exact proportion of blindness that is preventable would be a difficult matter, but considering the causes already enumerated, we may form an approximation, which need not be far astray. Following the proportions ascribed to the several causes in the census computations, we may perhaps set down all the cases of ophthalmia

[1] "The Blind in the United States," p. 98.

[2] Blindness may be regarded as of three kinds: (1) that as yet altogether non-preventable, as atrophy or wasting of the optic nerve, tumor of eye, congenital condition, etc.; (2) that possibly curable or preventable, as many cases of injury, of inflammation of the deeper structure of the eye, and of so-called unknown causes; and (3) that directly preventable, as infectious inflammations of the eyelids and conjunctiva, or membrane, including trachoma, gonorrhea, etc., and cases of injuries and diseases preventable at the beginning. Report of Illinois Board of Charities, 1908, p. 215; 1909, pp. 186, 587; Illinois Bulletin of Public Charities, xi., 1900, 5, Dec., p. 121; *Illinois Medical Journal*, xxi., 1912, p. 401.

neonatorum and trachoma, with most of the cases of "sore eyes," or about 7 per cent; three-fourths of the cases of the remaining specific affections of the eye (together with neuralgia), and of the definite general diseases, or 23 per cent; four-fifths of the cases of external injuries, including strained eyes, poisoning, foreign substances in the eye, and exposure to heat, or 14 per cent; and one-half of the cases designated as miscellaneous and unknown (not including neuralgia, "sore eyes," and strained eyes), or 20 per cent.[1] Thus we find, what seems to be a fair estimate, 64 per cent, or nearly two-thirds, of the blindness in the United States to be of a preventable character.[2]

[1] By the National Committee for the Prevention of Blindness the chief causes of preventable blindness are given as congenital defects; ophthalmia neonatorum; trachoma; eye injuries; ulcers of the eye (phlyctenular keratitis); measles, scarlet fever, and other dangerous diseases; interstitial keratitis; atrophy of the optic nerve; glaucoma; cataract; wood alcohol; progressive nearsightedness; eye strain; excessive use of tobacco and alcohol; and various ocular defects. Of 267 cases of blindness in one county in Ohio, that of 57.6 per cent has been regarded as preventable: consanguinity, 0.7; ophthalmia neonatorum, 5.2; syphilis, 25.1; infectious diseases, 19.9; occupational diseases, 2.6; nearsightedness, 4.10. As non-preventable is held 42.3 per cent: age, 14.2; accident, 14.2; glaucoma, 9.5; exposure, 2.6; diseases of women, 1.5; heredity, 0.4. *Outlook for the Blind*, ii., 1908, p. 108; Ohio Bulletin of Charities and Correction, xv., 1909, 1, Feb., p. 28. It is also stated that fully from 40 to 50 per cent of blindness is due to venereal diseases and infectious poisons, nearly all of which is preventable. *Ohio State Medical Journal*, v., 1909, p. 466. One-half of eye accidents are declared to be preventable by proper lighting and the use of safeguards. Report of Committee for the Prevention of Blindness, 1911, p. 10. "With proper precautions eye accidents can be reduced almost to the vanishing point." United States Bureau of Labor Statistics, no. 216, 1917, p. 57.

[2] One estimate is 50 per cent. Report of National Committee for the Prevention of Blindness, 1914, p. 9; W. C. Posey, *op. cit.*, p. 328 (E. M. Van Cleve). Another estimate is from 35 to 40 per cent. Ohio Bulletin of Charities and Correction, xvii., 1911, 4, Dec., p. 28; Bulletin of Missouri Board of Charities and Corrections, 1910, no. 2, p. 52; *Oulook for the Blind*, i., 1907, p. 104. A third is from 40 to 45 per cent. Report of Illinois Board of Charities, 1908, pp. 70, 213; Illinois Bulletin of Public Charities, xi., 1909, 5, Dec., p. 123; *Illinois Medical Journal*, xxv., 1914, p. 75. Similar estimates have been made by the New York Association for the Blind and the New York Commission for the Blind. An estimate of 30 per cent has also been made. Report of Ohio Commission for the Blind, 1908, p. 22; American Encyclopedia of Ophthalmology, 1916, ii., p. 1170. See also Report of Illinois Society for the Prevention of Blindness, 1916, p. 3; Illinois Institution Quarterly, viii., 1917, 1, March, p. 55. The blindness of one-half of the pupils of the Ohio School has been said to be preventable. Report, 1912, p. 50. In respect to 900 in attendance at this school from 1896 to 1913, a similar proportion is given as preventable. Report, 1913, p. 6; Ohio Bulletin of Charities and Correction, xx., 1914, 3, July, p. 21.

NOTE TO CHAPTER VI.—On the subject of causes of blindness and of its prevention. the following may be referred to: G. E. de Schweinitz, "Diseases of the Eye," ed.

1916; W. C. Posey, "Hygiene of the Eye," 1918; C. H. May, "Manual of Diseases of the Eye," 1917; G. M. Gould, "Biographic Clinic," 1905, ii.-vi.; Ernst Fuchs, "Causes and Prevention of Blindness" (translated by R. E. Dudgeon), 1885; Edward Jackson, "Manual of Diseases of the Eye," ed. 1907; C. A. Woods and T. A. Woodruff, "Commoner Diseases of the Eye," 1907; Samuel Theobald, "Prevalent Diseases of the Eye," 1906; Edward Nettleship, "Diseases of the Eye," ed. 1900 (England); H. C. Angell, "How to Take Care of the Eyes," 1878; H. D. Noyes, "Textbook on Diseases of the Eye," 1890; George Lawson, "Diseases and Injuries of the Eye," ed. 1903 (England); G. A. Berry, "Manual of Practical Ophthalmology," 1889; H R. Swanzy, "Handbook of Diseases of the Eye," ed. 1915 (England); J. H. Parsons, "Diseases of the Eye," 1918 (England); G. C. Harlan, "Eyesight and How to Care for It," 1893; Oscar Eversbusch, "Diseases of the Eye in Childhood" (translated by Lucien Howe), 1914; International System of Ophthalmic Practice, 1910–1918; Frank Allport, "The Eye and Its Care," 1896; H. C. Parker, "Handbook of Diseases of the Eye," 1910; H. W. Williams, "Our Eyes and How to Care for Them," 1871; J. M. Ball, "Modern Ophthalmology," ed. 1916; J. W. Wright, "Textbook on Ophthalmology," 1900; H. F. Hansell and W. M. Sweet, "Textbook on Diseases of the Eye," 1903; P. H. Adams, "Pathology of the Eye," 1912 (England); R. B. Carter, "Good and Bad Eyesight," 1882; Ernst Fuchs, "Textbook on Ophthalmology" (translated by Alexander Duane), ed. 1917; N. B. Harman, "Preventable Blindness," 1907 (England); L. W. Fox, "Practical Treatise on Ophthalmology," 1910; J. E. Weeks, "Treatise on Diseases of the Eye," 1910; W. G. Sym, "Diseases and Injuries of the Eye," 1913 (England); W. F. Norris and C. A. Oliver, "System of Diseases of the Eye," 1900, ii., p. 418; Boerne Bettman, "The Defective Classes and Legislation for the Prevention of Blindness," 1894; H. O. Reik, "Safeguarding the Special Senses," 1912, p. 11; D. C. McMurtrie, "Conserving Eyesight," 1911; Woods Hutchinson, "Handbook of Health," 1911, p. 259; Proceedings of National Conference of Charities and Correction, 1909, p. 91; 1910, pp. 357, 368; Proceedings of National Education Association, 1909, p. 880; 1910, p. 1055; 1911, p. 1051; 1912, p. 1306; Proceedings of 1st International Conference in America on Welfare of the Child, 1908, p. 299; Report of Philadelphia Baby Saving Show, 1912, p. 79; Chicago Child Welfare Exhibit, "The Child in the City," 1912, p. 55; Report of United States Commissioner of Education, 1913, i., p. 471; 1915, i., p. 507; Proceedings of International Congress on School Hygiene, 1907, pp. 794, 820 (England); Bulletin of Missouri Board of Charities and Corrections, 1910, no. 3, pp. 52, 59; Louis Stricker, "Blindness in Hamilton County," 1918, p. 81; Ohio Bulletin of Charities and Correction, xvii., 1911, 4, Dec.; xvi., 1910, 1, Feb., p. 25; 2, May, pp. 62, 93; xx., 1914, 3, July, p. 21; Report of Ohio Board of Administration, 1913, p. 78; Indiana Bulletin of Charities and Correction, June, 1912, p. 145; Illinois Bulletin of Public Charities, xi., 1909, 5, Dec., p. 120; Illinois Institution Quarterly, iii., 1912, 4, Dec., p. 125; iv., 1913, 2, June, pp. 157, 192; vi., 1915, 1, March, p. 165; Report of Illinois Board of Charities, 1894, p. 71; 1908, pp. 70, 215; 1909, pp. 178, 586; Report of New York State Board of Charities, 1910, i., p. 948; 1914, i., p. 371; Proceedings of New York State Conference of Charities and Correction, 1910, p. 162; Proceedings of Pennsylvania Conference of Charities and Correction, 1911, p. 115; Circular of New Jersey Board of Health, 1910, no. 121; Monthly Bulletin of New York State Department of Health, xi., 1916, p. 116; Report of Babies' Welfare Association, New York, July 7, 1917; Proceedings of International Conference on the Blind (England), 1908, p. 187; 1914, p. 466; Proceedings of American Association of Workers for the Blind, 1907, p. 24; 1911, p. 49; Proceedings of American Association of Instructors of the Blind, 1915, p. 49; 1918, p. 58; Transactions of Illuminating Engineering Society, 1911, p. 1004; 1913, p. 130; Proceedings of Conference of State and Provincial Boards of Health, 1915, p. 8; 1917, p. 26; Milwaukee Department of Health, Bulletin, March, 1917; Report of New York Association for the Blind, 1908, p. 38; 1909, p. 43; Report of New York Commission for the Blind, 1906, p. 70; Report of

Massachusetts Commission for the Blind, 1913, pp. 13, 64; Ohio Commission for the Blind, "Unnecessary Blindness in Children," 1915; Report of Michigan Employment Institution for the Blind, 1910, p. 48; Report of New York State School, 1896, p. 56; 1898, p. 27; Tennessee School, 1911, p. 32; Ohio School, 1913, p. 6; Arkansas School, 1914, p. 14; *California News* (California School), April, 1918; American Association for the Conservation of Vision, Monograph Series, 1911, no. 1; Bulletin, 1911; Russell Sage Foundation, Bulletin, 1911, no. 2; Encyclopedia Medica, 1916, iv., p. 530; American Encyclopedia of Ophthalmology, 1916, ii., pp. 1138, 1185; vii., p. 3186; Reference Handbook of the Medical Sciences, 1913, ii., p. 96; American Medical Association, Council of Public Health and Instruction, Committee on Prevention of Blindness, 1913; Conservation of Vision Pamphlets, 1914, vi. ("Autointoxication and the Eye"); viii. ("Lenses and Refraction"); ix. ("The Eye and Its Functions"); x. ("Care of the Eyes"); xii. ("Ordinary Eye Diseases"); Transactions of American Ophthalmological Society, 1887, p. 532; 1891, p. 156; 1898, p. 259; and *passim;* Transactions of American Medical Association, Section on Ophthalmology; Transactions of American Academy of Ophthalmology and Oto-Laryngology, 1912, p. 181; and *passim;* Transactions of Kentucky Medical Society, 1895, p. 305; Communications of Massachusetts Medical Society, 1908, p. 69; Transactions of Medical Society of the State of New York, 1888, p. 491; Transactions of College of Physicians, Philadelphia, 1897 (3rd s.), p. 218; Transactions of Medical and Chirurgical Society of Maryland, 1884, p. 183; 1891, p. 295; Transactions of Medical Society of State of North Carolina, 1915, pp. 292, 296, 307; Report of Massachusetts Board of Health, 1883, Supp., p. 89; Report of Virginia Board of Health, 1884, p. 178; Report of Michigan Board of Health, 1882, p. 175; National Committee for the Prevention of Blindness, Reports and other publications; Publications, 1915, no. 1 ("Concerning Common Causes of Blindness in Children"); *American Journal of Sociology*, xxiii., 1918, p. 651; *Mothers' Magazine*, xiii., 1918, p. 419; *Atlantic Monthly*, xxvii., 1871, pp. 62, 177, 402; xc., 1902, p. 614; *Annals of American Academy of Political and Social Science*, xxxvii., 1911, p. 273; *Journal of Franklin Institute*, cxxvii., 1889, p. 421; cxxviii., 1890, p. 9; cxxxii., 1891, p. 172; cxxxiii., 1892, p. 454; *World's Work*, xiii., 1907, p. 8629; xxxiii., 1917, p. 672; *Harper's Magazine*, lix., 1879, p. 456; lxviii., 1884, p. 864; *Century Magazine*, xiv., 1877, p. 700; lxxvii., 1908, p. 797; *Illustrated World*, xxvii., 1917, p. 110; *American Magazine*, lxxxvi., 1918, p. 46; *American Monthly Review of Reviews*, xxii., 1900, p. 360; xliv., 1911, p. 187; *Journal of Education*, lxxii., 1910, p. 341; *McClure's Magazine*, xxxiv., 1910, p. 619; *Cosmopolitan*, xxxix., 1900, p. 516; *Pearson's Magazine*, xxiii., 1910, p. 268; xxvii., 1912, p. 763; *Civic News*, Cincinnati, March, 1913; *Parents' Magazine*, July, 1918; *Human Engineering*, i., 1911, p. 114; *Illuminating Engineering*, v., 1911, p. 558; *Safety Engineering*, xxxiii., 1917, p. 21; *New Boston*, Sept., 1910; Feb., 1911; *Charities and the Commons*, xv., 1906, p. 850; *Survey*, xxxii., 1914, p. 181; xxxiv., 1915, p. 244; xxxv., 1915, pp. 43, 193; xxxix., 1917, p. 343; *Oulook for the Blind*, i., 1907, p. 104; iii., 1909, p. 24; ix., 1915, p. 58; *Ophthalmic Record*, xxi., 1912, p. 321; xxii., 1913, p. 703; xxiii., 1914, p. 325; xxvi., 1917, p. 318; *Medical Council*, xxiii., 1918, p. 299; *Medical Insurance and Health Conservation*, xxvii., 1918, p. 228; *Women's Medical Journal*, xxiii., 1913, p. 121; *Western Medical Review*, xvi., 1911, p. 414; *Journal of Michigan State Medical Society*, xiii., 1914, p. 99; xiv., 1915, p. 21; *Annals of Ophthalmology*, xxiii., 1914, p. 752; *Journal of Oklahoma State Medical Association*, ix., 1916, p. 331; xi., 1918, p. 177; *Journal-Lancet*, xxxvi., 1916, p. 561; *Northwest Medicine*, vi., 1914, p. 301; *Kentucky Medical Journal*, ix., 1911, p. 558; *Journal of Indiana State Medical Association*, vi., 1913, p. 406; vii., 1914, p. 437; *Journal of Iowa State Medical Society*, vii., 1917, pp. 51, 281, 296; *Virginia Medical Semi-Monthly*, xv., 1911, p. 445; xix., 1914, p. 424; *Journal of Maine Medical Association*, iv., 1913, p. 1581; iv., 1914, p. 1487; vi., 1915, p. 189; *Journal of Ophthalmology, Otology and Laryngology*, xx., 1914, p. 495; *Southern Practitioner*, xxxviii., 1916, p. 91; *Journal of American Medical Association*, xxii., 1894, p. 739; xliii., 1904, pp. 1543,

1615; lv., 1910, p. 303; lxi., 1913, p. 1156; lxv., 1915, p. 868; lxvi., 1916, p. 392; *Medical Summary*, xxxv., 1913, p. 11; *American Medicine*, vi., 1903, p. 356; *Lancet-Clinic*, lxix. (n. s.), 1912, p. 172; *Medical Times*, xxviii., 1900, p. 330; *New York State Journal of Medicine*, vii., 1907, p. 136; xii., 1912, p. 279; xiv., 1914, p. 448; xv., 1915, p. 48; *Illinois Medical Journal*, xviii., 1910, p. 664; xxi., 1912, pp. 399, 410, 560; xxii., 1912, p. 560; xxv., 1914, p. 75; xxix., 1916, p. 457; xxxii., 1917, p. 155; *Ohio State Medical Journal*, iv., 1908, p. 222; vii., 1911, p. 435; x., 1914, pp. 90, 148, 191; xii., 1916, p. 488; *Pennsylvania Medical Journal*, xv., 1912, p. 366; xvi., 1913, p. 256; xvii., 1913, p. 174; xviii., 1915, p. 460; *Iowa Medical Journal*, xvi., 1910, p. 572; *Journal of South Carolina Medical Association*, v., 1909, p. 345; vi., 1910, p. 328; *Denver Medical Times*, xxx., 1911, p. 366; *Southern Medical Journal*, viii., 1915, p. 968; x., 1917, p. 857; *Country Doctor*, v., 1898, p. 159; *Ophthalmology*, ix., 1913, pp. 329, 514; x., 1914, p. 77; xiii., 1917, p. 597; *American Practitioner and News*, xx., 1895, p. 81; xxxiv., 1903, p. 449; *International Medical Magazine*, vii., 1898, p. 167; *Medical Record*, lxix., 1906, p. 12; lxxx., 1911, p. 565; lxxxii., 1912, p. 62; *New York Medical Journal*, lxxxvii., 1908, p. 771; lxxxix., 1909, p. 982; xci., 1910, p. 898; xcv., 1912, p. 1266; c., 1914, p. 401; ciii., 1916, p. 145; civ., 1916, p. 91; cvi., 1917, p. 1208; *American Journal of Ophthalmology*, xi., 1894, p. 306; *Boston Medical and Surgical Journal*, clx., 1908, p. 201; *Virginia Medical Monthly*, xxi., 1894, p. 529; *Rocky Mountain Medical Review*, i., 1881, p. 351; *Journal of Missouri State Medical Association*, vii., 1910, p. 197; ix., 1913, p. 232; xiii., 1916, p. 507; xiv., 1917, p. 430; *Wisconsin Medical Journal*, xiii., 1915, p. 403; *Cleveland Medical Journal*, xiv., 1915, p. 668; *Journal of Ophthalmology and Oto-Laryngology*, viii., 1914, p. 36; x. ,1916, p. 103; xi., 1917, pp. 309, 430; *Archives of Ophthalmology*, xxi., 1892, p. 51; xliii., 1914, pp. 262, 501; xliv., 1915, pp. 438, 523; *Chicago Medical Recorder*, xxxvi., 1914, p. 407; *California State Journal of Medicine*, xiv., 1916, p. 227; xv., 1917, p. 213; *Trained Nurse and Hospital Review*, lii., 1914, p. 215; liv., 1915, pp. 201, 263, 339; lv., 1915, pp. 16, 82, 161, 218, 281, 347; *Modern Hospital*, v., 1915, p. 445; viii., 1917, p. 219; ix., 1917, p. 80; *Journal of American Public Health Association*, vii., 1911, pp. 309, 455; *American Journal of Public Health*, iv., 1914, p. 555; vii., 1917, p. 675.

CHAPTER VII

BLINDNESS AND HEREDITY

Extent to Which Blindness Is Transmissible

In the problem of the prevention of blindness, our attention may first be directed to the possible effects upon it of heredity. To this end we may attempt, by noting the proportion of the blind who have blind relatives, to find what traces there may be of blindness in particular families, and thus in some measure to discover what are the general bearings of heredity upon the matter. From the returns of the special schedules in connection with the census of 1910,[1] we learn that there are 3,221 blind persons who have blind parents, brothers or sisters, or children, these representing 11.0 per cent of the total. The number with blind parents is 1,073, or 3.7 per cent; with blind brothers or sisters, 2,295, or 7.8 per cent; and with blind children, 195, or 0.7 per cent. The number with blind parents alone is 776, or 24.1 per cent of all the blind having blind relatives; with blind brothers or sisters alone, 1,979, or 61.4 per cent; with blind children alone, 134, or 4.2 per cent; and with two or more of such classes of relatives, 332, or 10.3 per cent. Of the last named group 10, or 0.3 per cent, have blind parents, brothers or sisters, and children; 271, or 8.4 per cent, blind

[1] "The Blind in the United States," 1917, pp. 116–128, 220–234. Considerable care must be exercised in interpreting these statistics, chiefly because of the exaggerated impression likely to be given in cases where blindness occurs in two or more individuals in the same family, and because of the frequent appearance late in life of certain diseases of a hereditary character, notably cataract and glaucoma. According to the returns of the census for 1900, out of 57,726 blind persons for whom report is made, 10,967, or 19.0 per cent, had blind relatives of some kind—8,629, or 14.9 per cent, having blind ancestors, brothers, or sisters, and 2,388, or 4.1 per cent, having blind collateral relatives or descendants. Special Reports, "The Blind and the Deaf," 1906, pp. 16, 17, 49. In 1890 the proportion of the blind with blind relatives was reported to be 19.3 per cent.

parents and brothers or sisters; 16, or 0.5 per cent, blind parents and children; and 35, or 1.1 per cent, blind brothers or sisters and children. Of those with blind parents, 31, or 2.9 per cent—or 0.1 per cent of those with blind relatives—reported both to be blind; 478, or 44.5 per cent, the father only; and 564, or 52.6 per cent, the mother only—the difference with respect to the sex of the parent being perhaps in part at least accounted for by the greater liability of women to glaucoma, which is notably of hereditary character, and by their more frequent arrival at the advanced ages when cataract, no less hereditary in nature, is the more likely to occur. The proportion of native-born whites with blind parents is 3.8 per cent, of the foreign born 2.8 per cent, and of Negroes 4.3 per cent. Among the blind reporting blind children, the proportion for males is 1.0 per cent, and for females 1.5 per cent, that for the latter being higher because of their smaller liability to external injuries. The proportion for native-born whites is 1.2 per cent, for the foreign born 0.6 per cent, and for Negroes 1.9 per cent, being relatively low for the foreign born probably because of the operation of hereditary forces among them later in life, and high for Negroes perhaps because of the large number of the aged among them.[1]

To the foregoing statistics corroboration is on the whole lent by the statistics given in the reports of certain of the special schools for the blind, though with considerable individual variations. In the Colorado School, out of 266 pupils from the beginning to 1916, 29, or 10.9 per cent, have had blind relatives. In the North Carolina School, of a total attendance in 1910 of 364, such number was 96, or 26.6 per cent. In the Iowa School, of a total attendance in 1905 of 188, the number having relatives with more or less

[1] If the several proportions were the same for all the blind of the country as for those for whom schedules were returned, the total number of blind persons in the United States with blind relatives would be approximately 6,300; the number having blind parents, 2,100; the number having blind children, 400; the number having blind brothers or sisters, 1,500; and the number having both blind parents and children, 50.

defective vision was 50, or 26.5 per cent; and of 46 new admissions in 1914 and 1915, the number was 11, or 23.4 per cent. In the Pennsylvania Institution, of 180 new admissions from 1912 to 1917, there were 32 with relatives having impaired sight, or 17.7 per cent.[1]

In all these results the influence of heredity upon blindness is readily apparent. It is evident that there are certain families in society deeply tinged with blindness, which may pass from parent to child, from generation to generation.

Our next task, in the consideration of the effects of heredity upon blindness, is to determine in what manner, or through what channels, the blindness that is hereditary is conveyed. This will be necessary whether we regard such blindness to be of particular forms, or as operating through particular diseases or other disorders, or whether we regard the main factors involved to be, not so much the immediate or direct transmission of blindness itself, but rather the passing on of some defect or infirmity affecting one or more of the organs of sight, or a predisposition to blindness to a greater or less extent in the existence of a certain physical condition, which may sooner or later induce blindness. In either case we shall perhaps, in a study of the effects of specific diseases upon the loss of sight, come as near as now seems possible to discovering the real clue to the problem. For our purposes we may again revert to the results of the census investigations, and see what is there shown in respect to the several diseases that cause blindness. In the table following is presented the per cent distribution, according to the most important causes of blindness, so far as report is made, of the blind having and not having blind parents, blind brothers or sisters, and blind children.

[1] In some schools there are pupils whose blind ancestors can be traced several generations back. In certain schools there have been a number of pupils, all, respectively, the progeny of a single blind couple.

Causes of Blindness According to Existence of Blind Relatives

	Reporting as to Blind Parent						Reporting as to Blind Brothers or Sisters			Reporting as to Blind Children		
			One Parent Only Blind									
	Total	*Both parents blind*	*Total*	*Blind father*	*Blind mother*	*Neither parent blind*	*Total*	*Blind brothers or sisters*	*No blind brothers or sisters*	*Total*	*Blind children*	*No blind children*
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100 0	100.0	100.0	100.0
Specific affection of the eye	28.4	19.4	38.1	36.8	39.2	28.3	28.5	31.0	28.3	32.0	27.2	32.1
Diseases of the conjunctiva	3.8	3.2	1.4	1.0	1.8	3.9	3.6	2.2	3.8	2.1	3.6	2.0
Trachoma (granulated lids)	1.5	3.2	1.2	0.8	1.6	1.5	1.5	1.3	1.5	1.6	3.1	1.6
Ophthalmia neonatorum	2.0	.....	0.1	0.2	.....	2.1	1.8	0.7	1.9	0.2	.....	0.2
All other	0.3	.....	0.1	.....	0.2	0.3	0.3	0.2	0.3	0.2	0.5	0.2
Diseases of the cornea	0.9	.....	0.1	.....	0.2	1.0	1.0	0.3	1.0	0.7	0.5	0.7
Diseases of the iris	0.5	3.2	0.5	0.4	0.5	0.5	0.5	0.2	0.5	0.5	.....	0.5
Glaucoma	3.4	3.2	5.3	4.4	6.0	3.4	3.4	3.7	3.4	4.7	3.6	4.7
Diseases of the retina	0.6	.....	1.5	2.1	1.1	0.6	0.7	0.9	0.6	0.7	2.1	0.7
Retinitis pigmentosa	0.1	.....	0.3	0.4	0.2	0.1	0.1	0.4	0.1	0.1	0.5	0.1
Detachment of the retina	0.3	.....	1.1	1.5	0.7	0.3	0.3	0.4	0.3	0.3	1.0	0.3
All other	0.2	.....	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.5	0.3
Diseases of the optic nerve	6.3	.....	6.7	7.1	6.4	6.4	6.5	6.5	6.5	7.0	2.6	7.1
Atrophy of the optic nerve	6.2	.....	6.6	6.9	6.4	6.2	6.3	6.4	6.4	6.9	2.6	6.9
All other	0.1	.....	0.1	0.2	.....	0.1	0.2	0.1	0.2	0.2	.....	0.2
Cataract	11.2	6.4	20.5	20.3	20.7	10.8	11.2	14.8	10.8	14.4	14.9	14.4
Amaurosis and other disturbances of vision without ophthalmoscopic changes	0.1	.....	0.2	0.2	0.2	0.1	0.1	0.7	0.1	.....	.....	.....
Progressive myopia	0.1	.....	.....	.....	0 1	0.1	0.2	0.1	0.1	...	.....	0.1

CAUSES OF BLINDNESS ACCORDING TO EXISTENCE OF BLIND RELATIVES—*Continued*

	Reporting as to Blind Parent						Reporting as to Blind Brothers or Sisters			Reporting as to Blind Children		
			One Parent Only Blind									
	Total	*Both parents blind*	*Total*	*Blind father*	*Blind mother*	*Neither parent blind*	*Total*	*Blind brothers or sisters*	*No blind brothers or sisters*	*Total*	*Blind children*	*No blind children*
All other diseases of the eye	0.3	.....	0.3	0.2	0.4	0.3	0.3	0.2	0.3	0.2	.....	0.2
Combination of two or more diseases of the eye	1.2	3.2	1.5	1.0	2.0	1.2	1.2	1.2	1.2	1.5	.....	1.6
Other definitely reported causes	24.0	9.7	9.3	11.1	7.8	24.8	24.3	10.6	25.6	19.9	9.7	20.0
Syphilis	0.2	.....	.....	.....	.....	0.2	0.2	0.1	0.2	0.2	.....	0.2
Diseases of the head other than meningitis	1.3	.....	0.3	0.4	0.2	1.3	1.2	0.8	1.3	0.6	.....	0.6
Locomotor ataxia	0.3	.....	0.1	.....	0.2	0.3	0.3	.....	0.3	0.3	0.5	0.3
Accident or other injury to the eye (including sympathetic ophthalmia)	13.5	.....	5.7	6.5	5.0	13.9	13.7	3.8	14.6	12.5	5.6	12.6
Malformations	0.2	.....	0.1	0.2	.....	0.2	0.2	0.5	0.2	.....	.....	.....
All other	8.6	9.7	3.2	4.0	2.5	8.9	8.7	5.4	9.1	6.4	3.6	6.4
Causes indefinitely or inaccurately reported	35.5	54.8	37.8	37.7	37.9	35.6	35.8	46.1	34.8	35.8	46.7	35.7
Congenital (cause not stated)	5.5	16.1	3.6	4.2	3.0	5.5	5.4	20.1	4.1	0.7	8.2	0.6
Neuralgia	2.6	.....	3.0	1.7	4.1	2.6	2.7	2.3	2.7	3.7	5.1	3.7
Old age	2.3	3.2	3.2	2.7	3.5	2.2	2.2	2.0	2.2	3.5	3.6	3.5
Scrofula	0.8	.....	0.6	0.2	0.9	0.8	0.8	1.1	0.8	0.6	2.1	0.5
Sore eyes	3.1	9.7	2.0	2.9	1.2	3.2	3.2	2.4	3.3	2.8	4.1	2.8
All other	21.2	25.8	25.5	25.9	25.2	21.3	21.5	18.3	21.8	24.5	23.6	24.5
Combination of different classes of causes	1.5	.....	1.1	1.3	0.9	1.6	1.6	1.0	1.7	1.7	3.1	1.7
Cause unknown	10.5	16.1	13.7	13.2	14.2	9.7	9.8	11.2	9.6	10.6	13.3	10.5

The results with respect to these three groups of blind relatives manifest on the whole a considerable degree of similarity. With most of the different causes the amount of blindness seems not to be greatly affected by the existence of blind relatives. The causes found to operate the more extensively among blind persons with blind relatives, and consequently to show their hereditary nature, are chiefly specific affections of the eye, with the exception of those concerned with the cornea, and with the exception of those concerned with the conjunctiva among the blind having blind parents and among those having blind brothers or sisters. That this general result does not hold true with regard to the blind having blind children is no doubt to be accounted for by the circumstance that such children have not reached the age when the diseases of hereditary character most frequently come into play. Larger proportions are as a rule the case for blind persons having no blind relatives when the causes are simply adventitious diseases of a general kind or are external injuries. The number reporting the cause as congenital without further specification is relatively less among those having blind parents, but several times larger among those having blind brothers or sisters, and larger still among those having blind children. This number is on the whole not large; and we may be convinced, as we have already had occasion to observe, that no inconsiderable part of what is so reported is to be set down rather to causes operating at birth than as of an actual hereditary result.[1] The proportions listed for the blind both of whose parents are blind present such divergencies from the usual order that perhaps, owing to the very small number of their total (31), it may be best to disregard them almost entirely. It may suffice to note that the proportion of congenital blindness among such persons is considerably greater than among persons neither or only one

[1] According to the census returns for 1900, of all the persons born blind, 29.0 per cent had blind relatives, in contrast to 19.0 per cent for the total number of the blind; and while the proportion whose blindness was congenital was only 7.3 per cent for all, it was 12.5 per cent for those with blind relatives, or nearly double.

of whose parents is blind, and that the proportion of blindness from trachoma and sore eyes among them is also greater, the latter circumstance being possibly due to the spread of the infection in the same family.

Among specific diseases thus discovered to have a hereditary influence in the causation of blindness, the most notable is cataract.[1] The proportion of blindness from it is greater in every case of the existence of a blind relative, being nearly double among the blind having blind parents. It would probably show a higher ratio among the blind having blind brothers or sisters and among the blind having blind children but for the fact that such brothers or sisters or children have not attained the time of life when this disease is most actively in operation. The next disease with marked hereditary tendencies is glaucoma. Among blind persons whose parents are also blind its proportion is considerably greater than among those whose parents are not so afflicted, this being especially true with respect to women; while the results for neuralgia, a kindred affection, are similar. Among the blind having blind brothers or sisters the greater frequency is shown by the former disease, but not by the latter; while among the blind having blind children the reverse is the case. For both these two groups the ratios for glaucoma and neuralgia would doubtless be greater were it not for their appearance as a rule, like cataract, in later stages of life. Retinitis pigmentosa and detachment of the retina, both responsible for but a slight amount of blindness, likewise display decided hereditary propensities. Their proportions are greater with those having blind relatives of each of the three classes, and might be even greater if these diseases did not prove of their fullest effect till after middle age. In respect to atrophy of the optic nerve, one form of which is known to be of hereditary nature, the percentage found for the blind having blind parents is slightly in excess of that for those having

[1] It is to be remembered that there are several different forms of cataract of hereditary character.

seeing parents, which might also be the case for the other classes if this disease made an earlier appearance in life. The same is largely true with regard to blindness reported to be produced by old age, much of which we may be convinced is due to cataract and glaucoma. In amaurosis and other disturbances of vision without ophthalmoscopic changes there are larger proportions among the blind having blind parents and among those having blind brothers or sisters; and in progressive myopia and in malformations, among those having blind brothers or sisters. Finally, in scrofula, rather to be regarded as a general disease, somewhat higher ratios are discovered among those having blind brothers or sisters and among those having blind children than among those without such relatives.[1]

In connection with the hereditary bearing of the several diseases upon blindness, a word may be appropriate as to the age of its occurrence among blind persons with and without blind relatives. For those having a blind parent, it appears that this tends to be higher than for those not having such a parent—which is especially true with regard to those having a blind mother. The respective proportions for those reported to have been born blind are 4.8 per cent and 6.5 per cent, and for those losing sight under the twentieth year 8.0 per cent and 24.4 per cent; while among those becoming blind in adult life, or after the twentieth year, the respective proportions are 86.6 per cent and 67.6 per cent, being for those becoming so after the forty-fifth year 68.9 per cent and 44.3 per cent, and for those becoming so after the sixty-fifth year 38.0 per cent and 20.7 per cent. For the blind having blind children the situation is the opposite, the age of the occurrence of blindness among such being relatively lower than among those not having blind children. The respective proportions for those born blind are 8.7 per cent and 0.7 per cent, for those losing sight under

[1] According to the census returns of 1900, the diseases which are found to exert a hereditary influence upon blindness are cataract, glaucoma, neuralgia, scrofula, measles, and strained eyes.

the twentieth year 10.8 per cent and 6.5 per cent, and for those losing sight after the twentieth year 77.9 per cent and 91.2 per cent. All this is largely to be explained by the circumstance already referred to, that in many instances where blindness occurs in successive generations of the same family, it is occasioned by certain diseases which affect the sight after middle life, in particular cataract, glaucoma, and retinal disorders.

Outside of the census returns, the fullest investigation of the question of the hereditary influence of diseases upon blindness is that of Dr. Clarence Loeb in 1909.[1] From an examination of reports furnished by oculists and by institutions for the blind, and from the review of medical literature on the subject, covering a period of fifty years, a record has been made of 1,204 families in which hereditary blindness has been found to occur. In these families there were 4,155 children, of whom 2,523 were affected. The diseases which are discovered to be liable to result in blindness of this character are twelve in number: albinism, aniridia and coloboma iridis, anophthalmus and microphthalmus, atrophy of optic nerve, cataract, ectopia lentis, family degeneration of cornea, glaucoma, megalophthalmus, nystagmus, ophthalmoplegia and ptosis (including strabismus), and retinitis pigmentosa. In the following table are shown, for the several diseases, the number of families affected, with the per cent distribution, and the entire number of children born in them, with the number and percentage of children affected, arranged according to totality; according to direct heredity, with both parents affected; according to direct heredity, with but one parent affected; according to indirect heredity, involving not the parents, but more remote ancestors; and according to collateral heredity, involving cousins or uncles or aunts.

[1] *Annals of Ophthalmology*, xviii., 1909, pp. 1, 245, 489, 755. The investigation was not confined to America alone, but included countries in Europe as well. See also *Outlook for the Blind*, ii., 1909, p. 162; *St. Louis Medical Review*, lviii., 1909, p. 6; *Journal of Missouri State Medical Association*, ix., 1913, p. 234; Transactions of American Academy of Ophthalmology and Oto-Laryngology, 1908, p. 246.

Diseases Having Hereditary Influence upon Blindness

	Total					Direct Heredity—Both Parents Affected					Direct Heredity—One Parent Affected					Indirect Heredity					Collateral Heredity				
	Families Affected		Children of Such Families			Families Affected		Children of Such Families			Families Affected		Children of Such Families			Families Affected		Children of Such Families			Families Affected		Children of Such Families		
	Number	Per cent distribution	Total number	Number affected	Per cent affected	Number	Per cent distribution	Total number	Number affected	Per cent affected	Number	Per cent distribution	Total number	Number affected	Per cent affected	Number	Per cent distribution	Total number	Number affected	Per cent affected	Number	Per cent distribution	Total number	Number affected	Per cent affected
Total	1,204	100.0	4,155	2,523	60.7	6	100.0	31	17	54.8	722	100.0	2,293	1,319	57.4	113	100.0	385	226	58.7	363	100.0	1,446	961	66.4
Albinism	13	1.1	60	23	38.3	....	....	....	....	....	5	0.7	17	2	11.8	0	0.0	0	0	0.0	8	2.2	43	21	48.8
Aniridia and coloboma iridis	72	6.0	199	147	73.9	....	....	....	....	....	59	8.2	156	116	74.6	4	3.6	12	8	66.7	9	2.5	31	23	74.2
Anophthalmus and microphthalmus	48	4.0	117	87	74.4	....	....	....	....	....	26	3.6	57	40	70.2	3	2.7	4	4	100.0	19	5.2	56	43	76.8
Atrophy of optic nerve	150	12.4	506	312	61.6	....	....	....	....	....	46	6.4	120	56	46.6	43	38.0	155	93	60.0	61	16.8	231	163	70.6
Cataract	404	33.6	1,446	836	57.1	3	50.0	15	9	60.0	304	42.1	1,012	589	58.2	29	25.7	107	45	42.1	68	18.7	312	193	61.8
Ectopia lentis	64	5.3	212	155	73.1	....	....	....	....	....	43	6.0	155	109	70.3	3	2.7	12	6	50.0	18	5.0	45	40	88.8
Family degeneration of cornea	32	2.6	114	62	54.4	....	....	....	....	....	18	2.5	62	26	41.9	1	0.9	2	2	100.0	13	3.6	50	34	68.0
Glaucoma	58	4.8	194	109	56.2	....	....	....	....	....	44	6.1	131	72	55.0	1	0.9	10	4	40.0	13	3.6	53	33	62.2
Megalophthalmus	8	0.7	28	21	75.0	....	....	....	....	....	1	0.1	1	1	100.0	0	0.0	0	0	0.0	7	1.9	27	20	74.1
Nystagmus	30	2.6	107	66	61.5	....	....	....	....	....	18	2.5	56	26	46.4	3	2.7	11	11	100.0	9	2.5	40	29	72.5
Ophthalmoplegia and ptosis	39	3.2	145	94	64.9	1	16.7	6	3	50.0	32	4.4	121	77	63.6	1	0.9	1	1	100.0	5	1.4	17	13	76.5
Retinitis pigmentosa	286	23.7	1,027	611	59.5	2	33.3	10	5	50.0	126	17.4	405	205	50.6	25	22.1	71	52	73.2	133	36.6	541	349	64.5

From this table it appears that in one-third (33.6 per cent) of the families the disease causing the blindness is cataract, in nearly one-fourth (23.7 per cent) retinitis pigmentosa, and in one-eighth (12.4 per cent) atrophy of the optic nerve—these three diseases together being responsible for more than two-thirds (69.7 per cent) of all. Of the remaining diseases none is found singly to be of any great extent, the highest proportion for any of them being 6.0 per cent. In respect to the several forms of heredity indicated, some variation is observed. It is seen that in direct heredity with both parents affected, there are concerned only three diseases—cataract, retinitis pigmentosa, and ophthalmoplegia and ptosis—though the numbers here are perhaps too small to allow very much importance to be attached to them. In cataract the influence of heredity seems to be the more pronounced the more intimate its form, the proportion for direct heredity with both parents affected being 50.0 per cent, for direct heredity with but one affected 42.1 per cent, for indirect heredity 25.7 per cent, and for collateral heredity 18.7 per cent. In retinitis pigmentosa rather the opposite tendency is the case, the respective proportions for the four forms being 33.3 per cent, 17.4 per cent, 22.1 per cent, and 36.6 per cent. With atrophy of the optic nerve the greatest proportion occurs in relation to indirect heredity, this being 38.0 per cent, or nearly two-fifths of the cases of such heredity, while the proportions for direct heredity with one parent affected and for collateral heredity are, respectively, 6.4 per cent and 16.8 per cent. The proportions for aniridia and coloboma iridis, ectopia lentis, glaucoma, and ophthalmoplegia and ptosis are greatest in relation to direct heredity; for nystagmus, in relation to indirect heredity; and for albinism, anophthalmus and microphthalmus, family degeneration of cornea, and megalophthalmus, in relation to collateral heredity.

With respect to the effect of the several diseases on the offspring of these families, the disparity in the results is somewhat greater. The proportion affected of the entire

number of children is 60.7 per cent, ranging from 38.3 per cent for albinism to 75.0 per cent for megalophthalmus. The proportions for the three most important diseases, namely, cataract, retinitis pigmentosa, and atrophy of the optic nerve, are nearly equal, being close to three-fifths in each case (57.1 per cent, 59.5 per cent, and 61.6 per cent, respectively). In cataract the lowest ratio is shown in relation to indirect heredity, which is but little over two-fifths (42.1 per cent), the ratios for direct heredity with both parents blind, for direct heredity with but one parent blind, and for collateral heredity being, respectively, 60.0 per cent, 58.2 per cent, and 61.8 per cent. In retinitis pigmentosa, on the other hand, there is a very high ratio for indirect heredity (73.2 per cent), and low ratios for direct heredity (50.0 per cent where both parents are blind, and 50.6 per cent where only one is so), the remaining ratio for collateral heredity being nearly normal (64.5 per cent). In atrophy of the optic nerve the ratio increases with the remoteness of the kinship, being 46.6 per cent for direct heredity with one parent affected, 60.0 per cent for indirect heredity, and 70.6 per cent for collateral heredity. The proportions are greatest for direct heredity in aniridia and coloboma iridis and megalophthalmus, for indirect heredity in anophthalmus and microphthalmus, family degeneration of cornea, nystagmus, and ophthalmoplegia and ptosis, and for collateral heredity in albinism, ectopia lentis, and glaucoma.

The diseases which have been enumerated probably represent nearly all having a part in hereditary blindness.[1] Others which have been added are myopia and astigmatism, though these do not necessarily constitute full blind-

[1] By the Section on Ophthalmology of the American Medical Association there has been prepared a bibliography of references to more than 700 cases of hereditary eye defects, involving 1,000 or 1,200 families. In about 160 of the cases there is cataract or ectopia lentis; in 90, optic atrophy; and in nearly 50, blindness with insanity or allied conditions. Other cases include hemeralopia, glaucoma, microphthalmus, retinitis pigmentosa, etc. In about one-third of the cases the defect in one or both eyes is sufficient to bring it within the definition of blindness. (From information furnished by Dr. Lucien Howe.)

ness;[1] distichiasis, retinitis punctata albescens, macular degeneration of the retina, and nodular and reticular opacities of the cornea;[2] syphilis in the form of interstitial keratitis; and in occasional instances glioma, choroiditis, and iritis.[3] It is also stated that "diseases of the eye from inherited syphilis are common; a predisposition to myopia is often inherited, and often refraction faults—such as hypermetropia and astigmatism—are transmitted from parent to child."[4]

The findings just set forth respecting the eye diseases of a hereditary character tend in the main to confirm the findings of the census. This is at once evident in the case of cataract, glaucoma (and doubtless also neuralgia), retinitis pigmentosa, and atrophy of the optic nerve. The remaining diseases, less frequent in their occurrence, are probably not unrelated to diseases without specific designation in the census reports.

The hereditary bearings of most of these affections are thus discovered to be pronounced; and their part in the causation of blindness is clear. Indeed, "in all the diseases, defects, or anomalies of the body, no better or more sharply-defined examples of heredity are to be found than in the human eye."[5]

[1] C. B. Davenport, "Heredity in Relation to Eugenics," 1911, p. 107. Color blindness and night blindness (hemeralopia) are also included.

[2] Arnold Knapp, "Medical Ophthalmology" (in "International System of Ophthalmic Practice"), 1918, p. 461. There have been added several other diseases occurring in occasional instances, especially forms of amertropia. See American Encyclopedia of Ophthalmology, 1916, viii., p. 5812.

[3] See *Ophthalmology*, ix., 1913, p. 165; *Ophthalmoscope*, Sept., Oct., 1906.

[4] Dr. Samuel Theobald, of Johns Hopkins University, in a letter to the writer.

[5] American Encyclopedia of Ophthalmology, 1916, viii., p. 5876. On blindness and heredity, see also *Ophthalmology*, xii., 1916, p. 760; *Illinois Medical Journal*, xxvi., 1914, p. 499; *Ohio State Medical Journal*, x., 1914, p. 659; *California State Medical Journal*, xii., 1914, p. 506; *Popular Science Monthly*, lxxv., 1909, p. 309; *Scientific American*, Supp., lxxxii., Sept. 9, 1916; *Nature*, lxxxi., 1909, p. 49; Report of Royal London Ophthalmic Hospital, 1905, p. 179; 1906, p. 389; 1907, p. 6; University of London, Francis Galton Eugenics Laboratory Memoirs, 1909, v.; 1910, part iv., p. 126; *Medical Record*, lxiv., 1903, p. 205; *American Journal of Ophthalmology*, xxxii., 1913, p. 235; *Southern Medical Journal*, ix., 1916, p. 266; *Annals of Ophthalmology*, xxvi., 1917, p. 513; *Ophthalmic Record*, xxiv., 1915, p. 59; *New York Medical Journal*, lxxxv., 1907, p. 1162; *British Medical Journal*, Aug. 29, 1914; M. F. Guyer, "Being Well-born," 1916, p. 108; Edward Jackson, "Manual of

It appears at the same time that the diseases which we have now considered constitute the real factors in the action of heredity upon blindness. So far as we are able to ascertain, it is through them only that hereditary forces operate, and it is they which furnish the true key to the situation. They, it seems, represent the forms to which is confined such blindness as is transmissible. Beyond them, says Dr. Loeb, "the entire range of ocular diseases is free from hereditary influence." [1]

For just how much blindness of a hereditary character the diseases in question are responsible, we cannot know with exactness. The total amounts ascribed to each added together do not reach 30 per cent of all; that is, the affections of the eye susceptible in any way of hereditary influence are jointly chargeable with less than three-tenths of blindness. This, however, is to be regarded as but the outside limit. From it there must be deducted a considerable proportion attributed to these affections, of non-hereditary origin. The amount actually transmitted we may thus believe to be much less than that indicated. By Dr. Loeb it is calculated not to exceed ten per cent.[2]

Effect upon Blindness of the Marriages of the Blind

After the consideration of the diseases of hereditary character which may have an effect upon blindness, our next inquiry turns to whether the possibilities of the transmission of such blindness are appreciably increased by the marriage of persons deprived of vision. As a preliminary inquiry, we shall endeavor to ascertain, first, to what extent the blind in general are married, whether in unions with persons able to see, or in unions with like sightless partners; and, second, to what extent the latter form, that is, intermarriage of the blind with the blind, takes place.

Diseases of the Eye," 1907, p. 576; Ernst Fuchs, "Textbook on Ophthalmology," 1917, p. 41; *Archives of Ophthalmology*, xlvii., 1918, p. 587.

[1] *Op. cit.*, p. 8.

[2] *Op. cit.*, p. 6. By several professors of diseases of the eye in certain medical schools, from whom information has been sought by the writer, it is stated that the effect of heredity upon blindness in general is not great.

To show how far the blind are or have been married, there are given in the following table the numbers and percentages of the male and the female blind fifteen years of age or over, as found in 1910, according to their marital relation, together with the respective percentages for the general population.[1]

MARITAL CONDITION OF THE BLIND

	MALE			FEMALE		
	Number	*Per cent*	*Percentage for general population*	*Number*	*Per cent*	*Percentage for general population*
Total	30,365	100.0	100.0	23,111	100.0	100.0
Single	9,777	32.4	38.9	6,752	29.3	29.8
Married, widowed, or divorced	20,436	67.6	61.1	16,272	70.7	70.2
Married	13,911	46.0	56.1	6,105	26.5	59.0
Widowed	6,208	20.5	4.6	10,019	43.5	10.6
Divorced	317	1.0	0.5	148	0.6	0.6

From this it appears that the proportion of the single among the male blind, or about one-third (32.4 per cent), is rather below that among the general population, and that the proportion among the female blind, or somewhat less than one-third (29.3 per cent), is about the same as that among the general population. The situation may be explained in the words of the census report.

In view of the circumstance, however, that a large proportion of the blind are past middle life and are therefore past the age at which in a normal class of the population most people marry, the proportion of single persons instead of being normal or nearly normal . . . is in fact very abnormal. It is possible to ascertain

[1] "The Blind in the United States," pp. 56–61, 95, 96, 173, 174, 195; "The Blind Population of the United States," pp. 31–34, 50. The number found in the census of 1900 to be married was 24,559, and the number widowed, 17,333—about one-third of all the blind in the first case, and nearly one-third in the second. "The Blind and the Deaf," 1906, p. 15.

approximately the normal proportion of single persons in a group having the same age composition as the blind by computing what the total number of single persons would be if in each age group the percentage single were the same as it is for the same age group in the total population. On that assumption the number of single males among the blind would have been only 5,346, or 17.7 per cent of the total, and the number of single females only 3,124, or 13.6 per cent of the total. In other words, instead of 16,529 single persons, representing 31.0 per cent of the total, in the blind population 15 years of age or over, the number single would have been only 8,470, representing 15.9 per cent of the total, or only about one-half as great, and instead of 36,708 who had married (comprising the married, widowed, and divorced), the number would have been 44,767, or about one-fifth greater. The difference between the two sets of figures affords some indication of the extent to which blindness acts as a bar to marriage; it does not afford an adequate measure, however, by reason of the fact that the majority of the married, widowed, and divorced blind had already married when they became blind, so that in their case the loss of sight obviously could have had no influence upon their matrimonial opportunities, except so far as it might prevent a second marriage on the part of the widowed or divorced.[1]

The proportion of the married, widowed, and divorced among the male blind, or about two-thirds (67.6 per cent), is somewhat greater than that among the general population, while among females it is very nearly the same, or about seven-tenths (70.7 per cent). The proportion married among males is somewhat less for the blind than for the general population, and less than half as great among females; while the proportion widowed among males is nearly five times as great among the blind as among the general population, and four times as great among females.

These differences are, of course, due primarily to the much greater age of the blind population, although it should also be borne in mind that the blind widowers and widows are probably less likely to remarry than those who have sight. . . .

The circumstance that women generally marry at an earlier

[1] "The Blind in the United States," p. 57. See also "The Blind Population of the United States," p. 32.

age than men is very largely responsible for the higher percentage who had been married among the former in the blind as well as in the general population, although in the case of the blind there is the further factor that a somewhat larger proportion of the females than of the males retained their sight until they were past the marrying age. It may be noted, however, that the difference between the two sexes as regards the percentage who had been married is, nevertheless, smaller in the blind population than it is in the general population. This is probably to be explained by the circumstance that blindness appears to constitute more of a bar for females than for males, although it may be partly due to the fact that a somewhat larger proportion of the female blind lose their sight in childhood, or, in other words, before they have had a chance to marry, than is the case with the males.[1]

Although the proportion of the males among the blind who are or have been married is nearly equal to that of the females, the proportion of the former who are married is nearly twice as great as of the latter (46.0 per cent, as against 26.5 per cent), while the proportion who are widowed is less than half as great (20.5 per cent, as against 43.5 per cent).

The reason for these differences is, of course, to be found partly in the greater age of the female blind population and partly in the circumstance that widows are much more numerous relatively than widowers in the general population.[2]

With respect to the several age groups in which the blind and the general population are found, according to their marital condition, the census report makes the following comment:

While in each age group the percentage married, both for males and for females, is lower among the blind than in the population as a whole, the percentage not only of single but also of widowed and divorced is in practically every case substantially higher. This of course is another indication of the extent to which blindness acts as a bar to marriage, the higher percentages

[1] "The Blind in the United States," p. 57. See also "The Blind Population of the United States," p. 32.

[2] "The Blind in the United States," p. 58.

for the widowed and divorced indicating that the loss of sight must in a considerable number of instances have prevented a second marriage. In the case of the divorced it is of course possible that the loss of vision may have been a contributing factor in bringing about the divorce. . . . The difference between the two sets of percentages is in general greatest for the ages when the majority of marriages are contracted, and decreases regularly in the later age groups, which in the case of the blind are made up to a great extent of persons who lost their sight late in life, and whose marital condition, therefore, was probably not affected by their blindness. . . .

In every age group, both for males and for females, the number of blind persons is much greater relatively among the single than among the married, widowed, and divorced, taken together, and in practically every age group it is greater among the single than in any of the other three classes taken separately. . . . In every age group, moreover, the number of blind is for each sex much smaller relatively among the married than among any of the other three classes, the difference being especially marked in the earlier age groups. As there is no inherent reason for supposing that the actual risk of blindness for the single is materially greater than for the married, widowed, or divorced, it is apparent that the generally high ratios of blind to total population shown for every age group for this class must result from the fact that blindness ordinarily acts as a bar to marriage.[1]

With respect to the age of occurrence of blindness, it is found that for blind males fifteen years of age and over who returned special schedules the proportion single among those losing sight before the twentieth year is 76.0 per cent, and among those losing sight after this year 17.4 per cent, while the respective proportions among females are 79.4 per cent and 13.1 per cent. With either sex the proportions decrease regularly with each successive age group. Among the blind who have been married the proportions married, widowed, and divorced in the different age groups (20.2 per cent, 3.6 per cent, and 0.2 per cent, respectively, for males, and 14.4 per cent, 5.8 per cent, and 0.3 per cent for females, becoming blind under the twentieth year; and 58.3 per cent, 23.1 per cent, and 1.2 per cent for males, and

[1] "The Blind in the United States," pp. 59, 61.

32.5 per cent, 53.8 per cent, and 0.7 per cent for females, becoming blind after the twentieth year) practically keep pace with those for the general population in similar age groups. Says the census report:

The high proportion [single] for those who lost their sight before the age of 20 is of course to be explained in part by the fact that this class is somewhat younger than the others, so that normally it would show a higher percentage single. Even more important, however, is the circumstance that comparatively few of those who became blind under 20 were married at the time, and as previously pointed out, the majority of those who have not married before they lose their sight continue single for the remainder of their lives. In this connection, it will be observed that both for males and for females the percentage who had married was considerably larger for those who had lost their sight between the ages of 15 and 19 than for those who lost it before completing their fifteenth year, or, in other words, before reaching marriageable age. As a matter of fact, if the percentage married, widowed, or divorced in each age group of the blind population 15 years of age or over who lost sight before the completion of their twentieth year had been the same as that for the corresponding age group of the general population, the proportion married, widowed, or divorced for the group as a whole would have been 67.7 per cent, or more than two-thirds, as compared with an actual percentage of 22.5, or less than one-fourth, the differences in these two percentages bringing out still more clearly the serious impediment which blindness constitutes to marriage. The fact that the percentage married, widowed, or divorced among the females who became blind before reaching the age of 20 is lower than that for males bears out the conclusion previously drawn (p. 57) that blindness is somewhat less of a bar to marriage in the case of males than of females, since, all other things being equal, the percentage should have been somewhat higher for females, by reason of the fact that women ordinarily marry earlier than men.

Since the proportion who had already married when they became blind for those who lost their sight at any given age will presumably be about the same as the proportion who have married in the general population of that age, the difference between this latter percentage and the aggregate percentage married, widowed, or divorced among those who had lost their sight at the given age should represent approximately the percentage who married after they became blind. Thus practically

all those who had married among persons who lost their sight before the age of 15 (approximately one-fifth of the total, both for males and for females) had done so after they became blind, as comparatively few marriages are contracted before that age. Similarly, since about 1 per cent of the males and about 12 per cent of the females from 15 to 19 years of age in the general population are married, and as 34.6 per cent of the males and 33.6 per cent of the females who lost their sight at these ages had married at the time the census was taken, about one-third of the males and one-fifth of the females who were from 15 to 19 years of age when they lost their sight probably had married since they became blind. These figures show that marriage among the blind is by no means rare, although, as previously pointed out, it is much less frequent than among those who can see.[1]

From all that has been signified in the census investigations, it is evident that marriage of blind persons as a class may be regarded as of not nearly so common a practice as of persons possessed of sight.

We now come to the question of the extent to which the blind marry among themselves. On this point we do not have at hand precise information. From what has just been said, it seems clear that the great majority of the blind reported as being or having been married, have or have had partners with the sense of vision. As has been pointed out, the marriages of most persons now blind were contracted prior to the advent of their blindness, which, furthermore, as we know, is in great part an incident of the later years of life. In addition, the statistics previously referred to, giving the number of the blind with both parents blind as 31, may not be without value in furnishing us a hint as to the situation. From direct inquiries made with respect to the condition in the several States, it would appear that there are several hundred blind couples (both blind at the time of marriage) in the United States.[2]

[1] "The Blind in the United States," p. 95. Of 8,886 blind persons fifteen years of age and over for whom special schedules were returned, and who were reported as single, 385 were stated to have had children, some widowed and divorced persons having been included among them. *Ibid.*, p. 125.

[2] The number of such marriages seems to vary somewhat in different communities.

The reasons for the relatively small number of marriages of the blind with the blind are several. In the first place, as we have noted, most blind persons were in the possession of sight at the age when marriages are usually contracted. Again, opportunities for the association of unmarried blind persons of the opposite sexes are in a large number of cases but rarely afforded.[1] Finally, there exists in many quarters a very strong sentiment against unions of the blind with the blind—a sentiment not confined to educators and friends of the blind, but extending to an influential portion of the blind themselves.[2] This feeling, it should be remarked, does not arise so much out of fear of the possible effect upon the offspring of them, as out of the economic and social considerations involved in the marriage of blind couples.[3]

With the situation thus presented, we may turn to our original question as to the consequences, in the way of the transmission of blindness, from the marriages of the blind,

In the State of Maryland only one such instance is said to be known. Proceedings of American Association of Instructors of the Blind, 1910, p. 111. Of former pupils of the Pennsylvania Institution up to the year 1907, there were 19 who had married other blind persons. Report, 1907, p. 16. Of 55 marriages of former pupils of the Missouri School for which record has been kept, 22 have been intermarriages. Bulletin of Missouri Board of Charities and Corrections, 1910, no. 3, p. 58. During the continuance of a special industrial home for the blind in Iowa, there were 5 blind couples who married from 1892 to 1899. Report of Iowa Board of Control, 1899, p. 522. See also Clarence Loeb, *op. cit.*, p. 23.

[1] In the schools for the blind as a rule the mingling of pupils of opposite sexes is permitted only under careful supervision, in some an almost complete separation of the two being effected. In other organizations for the blind restrictions are usually placed upon the meeting of such unmarried persons.

[2] Among the associations of alumnæ of the Perkins Institution and of the Pennsylvania Institution there is an agreement that if one of their number marries a blind person, her name is to be dropped from the rolls.

[3] The practical difficulties in the way of most sightless couples, combined with the hardships imposed upon both—there not being a single "pair of windows" for the two—are so great that such marriages are generally regarded as deplorable. On the matter of the intermarriage of the blind with the blind, see Proceedings of American Instructors of the Blind, 1853, p. 25; 1882, p. 57; Report of Perkins Institution, 1874, p. 100; *American Journal of the Medical Sciences*, lxv., 1873, p. 419; "Trimsharp's Account of Himself," 1873, p. 55; Proceedings of National Conference of Charities and Correction, 1879, p. 214; Proceedings of Minnesota Conference of Charities and Correction, 1899, p. 64; *Mentor*, ii., 1892, pp. 182, 352; J. W. Welch, "Abilities and Achievements of the Blind," 1905, p. 262; *Outlook for the Blind*, vi., 1913, p. 86; *St. Louis Republic*, May 13, 1908.

particularly from the marriage of the blind with the blind; that is, whether the likelihood of blind issue from them may be expected to be materially enhanced. Census statistics are wanting for the making of direct comparison between cases where both parties are blind and cases where but one is so; but renewed attention may be called to the fact that 1,073, or 3.7 per cent of the blind for whom report is made, have parents who are likewise blind, 31, or 2.9 per cent of them (or 0.1 per cent of the entire number), having both parents so; and that 195, or 0.7 per cent, have children who are also blind, though the actual number of the latter is probably somewhat higher, the blindness of such not infrequently developing in later years of life. For further light in the matter, we may refer again to the results of Dr. Loeb's investigations.[1] Here, it will be remembered, there are 1,204 families in which blindness is discovered to be of hereditary character, with 4,155 children born of them, of whom 2,523, or 60.7 per cent, are affected. The number of cases where both parents are blind is very small, there being only 6 such families, while the total number of children born of them is but 31, or 0.7 per cent of all. In those families where the blindness is of direct heredity, with one or both parents blind, 2,324 children are born, of whom 1,336, or 57.5 per cent, are affected. In those where both parents are blind, 31 children are born, of whom 17, or 54.8 per cent, are affected. In those where one parent only is blind, the other having sight, 2,293 children are born, of whom 1,319, or 57.4 per cent, are affected. In those where the heredity is indirect, that is, not through the parents themselves, but through a more remote ancestor, 385 children are born, of whom 226, or 58.7 per cent, are affected. In those where the heredity is collateral, that is, through some cousin, or uncle or aunt, 1,446 children are born, of whom 961, or 66.4 per cent, are affected.

In all this perhaps the most striking result is the very similar proportions found, whether the heredity is direct,

[1] See p. 135.

with one or both the parents blind, or is indirect, or is collateral. It would seem to be indicated that in the effect upon the sight no greater part is played by direct heredity than by indirect or collateral heredity. In the nearly equal proportions of children affected when both parents are blind, and when only one is so, that in the latter case being in fact slightly larger, there is apparently a very strange outcome. It may be taken to mean that, so far as is manifested from these statistics, the likelihood of blind offspring is not necessarily greater when both parents are without sight than when one is without it and the other with it. The explanation probably lies in the circumstance that with different pathological conditions in parents who are blind, the blindness of one being due to one affection, and that of the other to another—it being but very seldom to be expected that the disorder in both should arise from precisely the same cause—the liability to the transmission of blindness should be no more marked than in the case of unions of one sighted and one blind partner.

Finally, in the reports of certain of the special schools for the blind there is afforded corroboration both of the general connection between blindness and the existence of blind relatives, and of the relatively small proportion of the sightless who are the offspring of like parents. Of 266 pupils who have been in attendance at the Colorado School up to 1916, there have been 2, or 0.8 per cent, who have had blind parents. Of 44 new admissions in the Iowa School in 1914 and 1915, the number having parents with defective vision was 1, or 2.3 per cent. Of 55 marriages recorded of former pupils of the Missouri School, only 1 blind child, or 1.8 per cent, was the issue. From replies to inquiries directed to the several States, the proportions seem to be but little increased.

Effect upon Blindness of Consanguineous Marriages

Akin to, or perhaps rather a part of, the question of the effect of heredity upon blindness is that of the effect there-

upon of consanguineous marriages. This comes chiefly from a certain decided tendency for a defect, physical or mental, to which there may be a family predisposition, even though of a latent character, and not found in the parents themselves, to appear in the offspring of such marriages; or, in short, from the increased tendency for a given defect to be transmitted as the result of such marriages.

According to the census returns for 1910, of 29,242 blind persons answering in this particular, 709, or 2.4 per cent, have parents who were first cousins.[1] Of these, 266, or 37.5 per cent, have blind relatives, as compared with 11.0 per cent for the blind in general. In other words, while persons whose parents were first cousins constitute 2.4 per cent of the blind, they constitute 8.3 per cent of the blind having blind relatives. That is, the proportion of the blind with blind relatives is over three times as great among those whose parents were cousins as it is among the blind as a whole. Of the blind with such relatives, most have blind brothers or sisters, 94.0 per cent having such in conjunction with other relatives, and 88.0 per cent such alone; while only 10.5 per cent have blind parents, only 5.6 per cent having such alone; and only 0.4 per cent have blind children. With respect to the age at which sight was lost,

[1] This ratio is thought possibly to be too high. "The Blind in the United States," p. 118. The ratio among native-born whites is 3.2 per cent, among the foreign born 1.1 per cent, and among Negroes 0.6 per cent. According to the census of 1900, of 56,507 blind persons for whom report was made, 2,527, or 4.5 per cent, had parents who were cousins. Of these, 933, or 39.3 per cent, also had blind relatives, of whom 844, or 33.4 per cent, were ancestors, brothers, or sisters, and 149, or 5.9 per cent, collateral relatives or descendants. With those whose parents were cousins, the blindness in 632, or 25.0 per cent, was congenital; while of this number, 350, or 55.4 per cent, also had blind relatives. Among the blind whose parents were not related, the proportion having blind relatives was 17.6 per cent, and the proportion of congenital cases was 6.8 per cent, while the proportion of those born blind and also having blind relatives was 27.9 per cent. In other words, the proportion of the blind having blind relatives is over twice as great when the parents are cousins as it is when they are not; the proportion of the congenitally blind is nearly four times as great; and the proportion of the congenitally blind also having blind relatives is twice as great. Special Reports, "The Blind and the Deaf," 1906, pp. 16, 17, 49. See also G. B. L. Arner, "Consanguineous Marriages," 1908, p. 50; *Independent*, lxi., 1906, p. 232; *Pennsylvania Medical Journal*, xii., 1909, p. 751; *American Journal of Ophthalmology*, xx., 1903, p. 337.

the tendency is strongly to an earlier period in the case of the blind with parents who were cousins, and to a later in the case of the blind without such parents, the differences being especially pronounced among those blind at birth and among those becoming so in advanced years. The proportion of the former class congenitally blind is 21.7 per cent, as against 6.1 per cent for the latter class, or over three times as great. The proportion losing sight under the twentieth year is 25.5 per cent for the former, as against 23.8 per cent for the latter; whereas the proportion losing sight above this age is 51.1 per cent, as against 68.8 per cent, being for those losing sight after the forty-fifth year 27.8 per cent, as against 45.6 per cent, and for those losing sight after the sixty-fifth year 11.7 per cent, as against 21.5 per cent.

These differences are of course explained by the circumstance that the special risk involved in consanguineous marriages arises from the fact that any latent tendency toward a hereditary defect is much more likely to become evident in the offspring of a marriage when both parents possess this latent tendency than when only one possesses it. As such defects to a considerable extent either are congenital or manifest themselves early in life, it was to be expected that the blind children of first cousins would comprise a relatively high proportion of persons who were congenitally blind or lost their sight in infancy or childhood.[1]

It is also found that with certain diseases the proportion of the blind whose parents were cousins is greater than of the blind whose parents were not so related. These are cataract, constituting 11.4 per cent in the former case, as against 11.1 per cent in the latter; measles, with 2.7 per cent, as against 1.7 per cent; scrofula, with 1.1 per cent, as against 0.8 per cent; typhoid fever, with 1.1 per cent, as against 0.7 per cent; malformations, with 0.7 per cent, as against 0.2 per cent; poisoning, with 0.6 per cent, as against 0.4 per cent; amaurosis and other disturbances of vision without ophthalmoscopic changes, with 0.4 per cent, as

[1] "The Blind in the United States," p. 121.

against 0.1 per cent; exposure to heat, with 0.4 per cent, as against 0.1 per cent; and retinitis pigmentosa, with 0.3 per cent, as against 0.1 per cent.[1] The proportions are greater when the parents are unrelated for most of the specific affections of the eye, especially trachoma, ophthalmia neonatorum, glaucoma, and atrophy of the optic nerve, and also for the larger number of general causes, particularly external injuries.

The connection of consanguineous marriages with blindness is likewise shown in the reports of schools for the blind. In the Colorado School, of 266 pupils in attendance up to 1916, 7, or 2.6 per cent, have been the offspring of parents who were related before marriage. In the Iowa School, of 44 new admissions in 1912 and 1913, there was 1 whose parents were cousins, or 2.3 per cent. In the North Carolina School, of a total attendance in 1910 of 364 pupils, 51, or 14.0 per cent, had parents who were cousins; and of 274 pupils in 1915, 48, or 17.5 per cent.[2]

Consanguineous marriages which have an effect on blindness, it thus appears, are not of relatively frequent occurrence. But where they do take place, there is found to be a decided connection between them and resulting blindness in the offspring. The matter seems a part of a general law of wide application, namely, that in the blood relationship of parents the possibilities are intensified of the perpetuation of a given strain, which holds true no less with respect to the transmission of blindness. How far, however, if at all, such blindness is to be ascribed directly or solely to the fact of the relationship of the parents, is a subject for question. The main consideration, and the point in regard to which we can, in the present state of our knowledge, be most sure, seems to be that in such marriages

[1] According to the census of 1900, the diseases which showed larger proportions when the parents were reported as cousins than when they were not, were: scrofula, with 2.8 per cent, as against 1.9 per cent; measles, with 2.9 per cent, as against 2.3 per cent; scarlet fever, with 1.1 per cent, as against 1.0 per cent; and catarrh, with 0.9 per cent, as against 0.8 per cent.

[2] Transactions of Medical Society of State of North Carolina, 1915, p. 245.

the chances are at least doubled of the offspring acquiring the characteristics of the parents; and that in them the liability is thus proportionately enhanced of transmitting blindness. In whatever attention is given to the problem of consanguineous marriages, their part in the causation of blindness should have due heed.[1]

Possible Action for the Prevention of Hereditary Blindness

Even though but a comparatively small portion of all blindness is to be ascribed to hereditary action, yet this portion deserves full and serious attention. For its repression rigorous measures if necessary are called for. A very great field is before us for general education on the subject; and a field also for legislation, which will perhaps become more clearly defined in the course of time.[2] The question is largely within the province of eugenics, and it is according to its pronouncements that our efforts will have principally to be governed.

Towards the formulation of a program or plan of action, the following may be set down as in the main the conclusions which are to be drawn from our foregoing study with respect to the effects of heredity upon blindness. (1) So far as we can discover, the whole matter is a part of the general laws of heredity, in respect to which our knowledge is very limited. (2) Blindness in the causation of which heredity plays a part, apparently constitutes much the smaller portion of all blindness, though the exact extent

[1] Of the offspring of consanguineous marriages, only 0.25 per cent, it has been found, are blind, and only 0.05 per cent are congenitally so. Contrasted with the ratio for the general population, the chances of such offspring are 632 per million when the parents are cousins, to 63 per million when they are not related, the chances thus being ten times as great in the one case as in the other. G. B. L. Arner, *op. cit.*, p. 64.

[2] In some States there has been consideration of the prohibition of the marriages of congenitally blind persons, as well as the marriages of certain other classes. The proposal has also been made that after the birth of a blind child to a couple, the parents be prevented, by sequestration or by sterilization, from having other children. See *Journal of American Medical Association*, lxx., 1918, p. 1994; Transactions of Section on Ophthalmology of American Medical Association, 1918, p. 61.

of such blindness we cannot now determine. (3) However we regard the connection of blindness with heredity—whether simply the manifestation of blindness through particular affections, or whether, as a less immediate or direct result, the consequence of the passing on of a particular defect or infirmity, or of a certain physical condition, which is itself the cause of blindness—this connection is a very real one. From the extent of blindness among relatives of blind persons, both lineal and collateral, it is clear that there are a certain number of families in society deeply affected with blindness. (4) Heredity appears to bear upon blindness through the operation of a limited number of diseases; and it is for the existence of such diseases that we must look in our attempts to fix upon the seat of the trouble. (5) So far as the increased possibility of blindness resulting from the marriage of blind persons is concerned, there is little need to fear, purely from the standpoint of eugenics, that the amount thereof will prove considerable. This is true even with respect to the marriage of the blind with the blind, though on other grounds strong objections are to be advanced to such unions. The blind generally are much less given to marriage than is the normal population; and of their marriages those with blind partners form on the whole much the smaller part. In the marriage of blind persons the danger is confined to the relatively small number of diseases above referred to, which, in the case of couples both of the partners of which are blind, will rarely be the same in each of them. The likelihood of blind offspring is thus not necessarily greater when both parents are blind than when one is blind and the other sighted. It also follows that seeing persons having one of the diseases indicated are practically as liable to affect their offspring with blindness as are the blind suffering themselves from such disease. (6) The matter of greatest significance seems to lie in the possibility of the marriage of blind persons whose blindness is due to one of the diseases specified, especially in case of the existence of similar

blind relatives, and in the possibility of the marriage of sighted persons, especially if with blind relatives whose blindness has resulted from one of these diseases. It is here that the real peril exists, and that the science of eugenics is to be called into requisition. (7) This science is also to be invoked with respect to consanguineous marriages which have a bearing upon blindness. Though these do not take place, so far as their effect on blindness is concerned, to any great extent, yet when they do, their consequences are very marked. Their relation to blindness consists apparently for the most part in the circumstance that the chances of its transmission are thereby intensified, there being also a considerable connection with the question of blind relatives in general.

CHAPTER VIII

BLINDNESS AND DISEASE

Blindness from General Diseases

From diseases affecting the eye in one way or another there results, according to our previous findings, some four-fifths of all blindness. Much of this is discovered to be due to diseases of infectious character. Certain of these diseases, as we have seen, are general ones, some being rather peculiar to the years of childhood and youth, as scarlet fever, measles, mumps, meningitis, typhoid fever, smallpox, and similar affections. Others are infections of a venereal nature, which seem to have an extended influence upon the organs of vision.[1] The larger number of such infectious diseases are, in most individual cases, amenable to treatment, with the consequent saving of the sight, if taken in hand at an early stage; while by a proper course of isolation in all instances there can at least be accomplished a checking of their spread.[2] In sympathetic ophthalmia resulting from wounds there is likewise the possibility of infection, which may be avoided by the exercise of suitable care. With certain of the specific affections of the eye, furthermore, notably cataract and glaucoma, and others of a minor extent, as ulcer of the cornea and similar disorders, there is, in the affording of due and seasonable treatment, occasion for very much preventive work, perhaps much more than

[1] Syphilis is said to be the cause of nearly all congenital blindness and malformation of the eye. Ohio Bulletin of Charities and Correction, xvii., 1911, 4, Dec., p. 28. To it are largely due atrophy of the optic nerve and interstitial keratitis. Of the latter 90 per cent is ascribed to syphilis. Report of Massachusetts Commission for the Blind, 1910, p. 13; 1915, p. 58. See also *Iowa Medical Journal*, xv., 1908, p. 279; *Archives of Ophthalmology*, xlvii., 1918, p. 455.

[2] On the relation of infectious diseases to blindness, see *Illinois Medical Journal*, xxi., 1912, p. 401.

is generally realized.[1] Finally, even with those diseases causing blindness the possibilities of the prevention of which are not so apparent, there can be little doubt that considerable gain might be generally effected in the employment of fitting medical and surgical measures. In certain quarters already, most often in connection with clinics in large cities, and also where a general system of nursing prevails, noteworthy efforts are being put forth to treat beneficially cases of impaired sight, especially cases in an incipient stage.[2]

Under enlightened action, then, we may be sure that a very large part of blindness resulting from disease may be prevented. The problem is largely in the hands of medical science, and for the present the most that we can do is to wait upon its developments in the study of both the prevention of disease and of its treatment. At the same time an immediately practical program lies in the better safeguarding of the general health of the community, which will insure a measurable diminution of blindness.[3]

There are, however, several specific diseases of a highly contagious character, often appearing in the years of childhood and youth, which have a peculiar bearing upon blindness, and in respect to which there are manifest possibilities of prevention. These are in the main ophthalmia neonatorum, trachoma, conjunctivitis, and keratitis. The two first named will require rather detailed attention, especially ophthalmia neonatorum. Conjunctivitis, an inflammation of the conjunctiva (in an acute stage sometimes known as "pink eye"), is generally to be avoided by the use of clean towels, handkerchiefs, etc. Keratitis is of two principal forms. Phlyctenular keratitis, an affection

[1] On the possibility of help for cataract, see Report of Massachusetts Commission for the Blind, 1915, p. 68.

[2] On clinics for eye diseases, see Proceedings of National Conference of Charities and Correction, 1915, p. 229. By certain associations and commissions for the blind special attention is being given to the providing of clinics. In several cases they have been established at State institutions.

[3] Weakened vision, possibly to a serious degree, is sometimes due to disorders of the general system, as indigestion, constipation, and nervous troubles, as well as to diseases of a more particular character.

of the cornea, most likely of tubercular origin, and often with the characteristics of scrofula or eczema, is a consequence largely of bad housing and nourishing; its prevention depends in the greatest measure upon the establishment of wholesome and sanitary surroundings, and upon the general treatment for tuberculosis.[1] Interstitial keratitis, also a corneal affection, is due in most cases to venereal disease, and in a few to tuberculosis.

Trachoma: Its Prevalence, and Practical Measures for Its Prevention

Trachoma, or granulated lids (sometimes also called "red sore eyes"), producing small eruptions, or "granulations," under the eyelids, is, according to the census, with "sore eyes," the cause of between four and five per cent of all blindness. Of the persons affected with it not all lose their sight, but a very considerable proportion eventually do, most of these becoming partially, but effectively, blind. Trachoma is spread chiefly by the use of unclean appliances, especially of the common towel or wash basin. The disease is found in various parts of the country, though it is in the main concentrated in particular sections. Among certain classes of the foreign born it obtains to a high degree.[2] It is also very prevalent among some of the native Indian races.[3] Among miners in particular regions it is likewise found. Considered geographically, trachoma may be said

[1] This has been declared to be "the commonest of damaging eye diseases in cities." Report of Massachusetts Commission for the Blind, 1910, p. 55. Of the blindness in Massachusetts 2 per cent is said to be caused by this disease. *Survey*, xxxii., 1914, p. 181. See also Massachusetts Commission for the Blind, Bulletin, no. 2, 1910, "Conservation of Eyesight"; Report, 1915, p. 66.

[2] In 1909 the number of immigrants rejected by reason of trachoma was 2,084; in 1910, 2,618; in 1911, 2,152; in 1912, 1,321; in 1913, 2,047; and in 1914, 2,565. "The Blind in the United States," 1917, p. 51. See also *ibid.*, pp. 30, 107; United States Public Health Reports, Reprint 296, 1915; National Committee for the Prevention of Blindness, Publications, no. 6, 1915, "Trachoma a National Menace" (G. L. Berry), p. 19; Report of New York State Board of Charities, 1910, i., p. 948; *New York State Journal of Medicine*, xii., 1912, p. 283.

[3] Of 39,231 Indians examined by the Federal authorities in 1913 and 1914, 8,940, or 22.7 per cent, were with trachoma. Publications of National Committee for the Prevention of Blindness, *loc. cit.*, p. 25. See also Report of United States Public Health Service, 1912, p. 24; 1913, p. 257.

to exist throughout the Appalachian system, especially in Kentucky, Tennessee, West Virginia, and Virginia,[1] and also in Florida; in the mountainous sections of Missouri and Arkansas; [2] in a few States of the Middle West, as Ohio, Illinois, North Dakota, Minnesota, and Kansas; [3] in a few States of the Southwest, as Arizona, New Mexico, Nevada, Texas, and Oklahoma; and in a few other scattered sections.[4]

The chief requirements for the checking of this disease are the compulsory reporting to the health authorities of all cases; rigorous follow-up work in the way of treatment of such cases; the possible quarantining of actual and sus-

[1] The disease is especially prevalent in the mountains of Kentucky, seeming to be rooted in certain strongholds, though it is found in other parts as well. Of persons examined in 5 mountain counties, 13.0 per cent were discovered to have it. Publications of National Committee for the Prevention of Blindness, *loc. cit.*, p. 27; American Medical Association, Conservation of Vision Pamphlets, v. ("Trachoma in Eastern Kentucky"). In 23 counties the proportion varied from 1.7 per cent to 26.4 per cent, averaging 7.1 per cent. In 20 counties the proportion was 8.2 per cent. Bulletin of Board of Health of Kentucky, July, 1915; *Outlook for the Blind*, ix., 1915, p. 61. Of the school children of the mountain section, from 3 to 18 per cent have been said to be affected. *Survey*, xxix., 1913, p. 679. In certain other districts of the State the proportion with trachoma has been found to be 2.8 per cent. See Bulletin of Board of Health of Kentucky, Nov., 1911; May, 1913; United States Public Health Reports, Reprint 101, 1912; 196, 1914; 263, 1915. In 31 counties of Tennessee the proportion is reported as 2.0 per cent; in 10 of Virginia, as 1.4 per cent; and in 23 of West Virginia, as 1.6 per cent. See *ibid.*, 198, 1914; 207, 1914; 220, 1914. See also *ibid.*, 134, 1913.

[2] In the Arkansas School there are more pupils blind from trachoma than from all other causes combined. Report, 1910, p. 9. See also *News Letter*, April, 1918.

[3] The disease is very prevalent in the southern part of Illinois. See *Illinois Medical Journal*, xxv., 1914, p. 77; Illinois Institution Quarterly, i., 1910, 2, Aug., p. 44; ix., 1918, 3, Sept., p. 61. Of 5,962 steel workers in certain factories in Ohio, 76, or 1.3 per cent, were found to have the disease—most having come from Southeastern Europe. Report of United States Public Health Service, 1914, pp. 49, 560, 596; Publications of National Committee for the Prevention of Blindness, *loc. cit.*, p. 30.

[4] In the public schools of New York City in 1916, 0.9 per cent of the pupils had the disease. *News Letter*, April, 1917. On the relatively small extent of trachoma among Negroes, see *Journal of American Medical Association*, xxxiv., 1900, p. 399. On conditions in different sections, see *ibid.*, lxii., 1914, p. 1564; *Ophthalmic Record*, xxii., 1913, p. 649; *New York Medical Journal*, cvi., 1917, p. 708; *Virginia Medical Semi-Monthly*, xix., 1917, p. 443; *Annals of Ophthalmology*, xv., 1906, p. 243; xx., 1911, p. 851; *Ophthalmology*, xii., 1915, p. 41; *Ohio State Medical Journal*, x., 1914, p. 711; xi., 1915, p. 23; *Texas State Journal of Medicine*, iv., 1909, p. 312; xiv., 1918, p. 229; *Journal of Infectious Diseases*, xiv., 1914, p. 261; *Modern Hospital*, v., 1915, pp. 51, 368; *Maryland Medical Journal*, lviii., 1915, p. 277; *Journal of Ophthalmology and Oto-Laryngology*, xi., 1917, p. 35; *Medical News*, lxxxvi., 1905, p. 1067; *Medical Record*, lxiii., 1903, p. 293; lxix., 1906, p. 178; *Medical Review of Reviews*, xxii., 1916, p. 777; *Journal of Arkansas Medical Society*, vii., 1911, p. 229; *Kentucky Medical Journal*, xiii., 1915, p. 5; *News Letter*, Oct., 1916; June, Oct., 1918.

pected cases; the periodic examination of school children and of other persons likely to be affected; the establishment of hospitals in especially infected districts; the regulation of common lavatory facilities in public places; and the due inspection of immigrants coming to the country. An additional requirement, and perhaps the foremost one, is the conducting of a thorough campaign of education respecting the disease in every locality where it may in any degree be prevalent.

As yet only the beginning of special attention has been given to the problem of the prevention of trachoma in the United States. However, a start has been made in the attack upon it, as a part of the general campaign for the prevention of blindness; and there is distinct hope that in time the movement will become a wide one. In some of the States trachoma is now listed among the communicable and contagious diseases for which report to the health authorities is required. This is provided for by law in Alabama, Arizona, California, Colorado, Florida, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, Wisconsin, and perhaps in other States. In certain of these States trachoma is included in the provisions of the statutes applying to ophthalmia neonatorum. Furthermore, in most of the States enumerated, and in a few others, children suffering with the disease are forbidden by law from entering the public schools.[1] A considerable number of State boards of health have likewise adopted appropriate regulations in the matter, some requiring the proper isolation of cases.[2]

[1] These citations are in the main based on *Ophthalmology*, xii., 1916, p. 496 (in a series of papers on State laws concerning the eye, by Dr. Frank Allport, in *Ophthalmology* in 1915, 1916, and 1917), with advices from the National Committee for the Prevention of Blindness.

[2] In several of the large cities special classes have been established in the schools for trachomatous children.

Most important of all is the action which the National Government has taken. Inasmuch as the disease extends over various sections, leaping across State boundaries, and inasmuch as the Federal authorities are best qualified to cope with the general situation, this action is as fitting as it is commendable. In 1912 Congress made an appropriation for a partial investigation of the disease, by the United States Public Health Service, and for the establishment of certain local hospitals, since which time further aid has been rendered.[1] There are now seven hospitals, three in Kentucky, and one each in Virginia, Tennessee, West Virginia, and North Dakota, each costing annually about $7,000.[2] The total number of persons treated by them in 1917 was 1,437.[3] Already notably beneficial results have been secured. In the Federal immigration Acts providing for the exclusion of persons with "dangerous contagious diseases," now applying with full force with respect to the disease, there seems to be adequate protection against trachomatous immigrants.[4]

Extent of Ophthalmia Neonatorum

The disease known as ophthalmia neonatorum, or inflammation in the eyes of the new born, merits special attention because of the large amount of blindness which it produces, and because of the comparatively little difficulty with which it may be prevented. It is an infectious disease which enters the eyes of newly born infants, usually at the

[1] The first amount was of $10,000, which was at the request of the American Medical Association. A similar sum was used in 1910 and thereafter for the examination of Indians. In 1913 a law enacted in 1882, authorizing the President to employ public funds for the suppression of actual or threatened epidemics, was made to apply to trachoma. Stat. 1912, ch. 388; 1913, ch. 3; 1914, ch. 223; 1915, ch. 75.

[2] By some of these States a small amount, aggregating a few thousand dollars, is granted in aid of the work. Quarters are sometimes provided by local authorities.

[3] During the year ending July 1, 1917, the total attendance was 18,430. In one county in 1912 the proportion of cases affected of those examined was 12 per cent, and in 1916 none. *News Letter*, Oct., 1916.

[4] In 1897 trachoma was declared a contagious disease by the Secretary of the Treasury. In 1903 it was placed under special ban by Congress.

time of birth; [1] and unless attended to within a few hours of its appearance destroys the sight, or so scars the cornea as greatly to reduce vision.[2] The first symptoms are generally redness, then a swelling, and finally the discharge of matter. The disease is very widespread.[3] According to the census returns, to it is ascribed some two per cent of all blindness, while an amount perhaps not greatly different reported as congenital, the cause of which is not definitely known, should be laid to it. Among the blind losing their sight under the first year of life, it is found to be by far the leading cause.[4]

The extent of ophthalmia neonatorum is strikingly indicated in the number of pupils in the special schools whose blindness is due to it. This will be seen in the following table, which shows the total number in attendance and the number of new admissions in thirty-four institutions and in the day schools in seven cities in the year 1917–1918, with the number and percentage of pupils made blind in each by the disease.[5]

[1] In certain cases the disease is communicated shortly after birth, especially from articles of clothing or similar articles. In a few instances it results from sources other than maternal, as from influenza or similar germs.

[2] The disease is due to the operation of several micro-organisms. Most of them seem to be gonococci, the proportion of such being estimated as from 60 to 80 per cent. See *New York State Journal of Medicine*, xi., 1911, p. 503; *American Journal of Public Health*, vi., 1916, p. 926; *Survey*, xxxv., 1915, p. 43; Report of Committee for the Prevention of Blindness, 1913, p. 12.

[3] Of all the babies born in hospitals in New York City in 1908, 0.5 per cent were reported to be so infected. *Ibid.*, 1908, p. 2. Of 22,877 babies born in ten Massachusetts cities in 1909, 147, or 0.6 per cent, were similarly reported. American Association for the Conservation of Vision, Monograph Series, 1911, no. 1, p. 70. Of 112,951 births reported in the State of Ohio during the year ending June 30, 1917, there were 1,254 cases of inflammation of the eye, or 1.1 per cent (2.0 per cent in larger cities). *Ohio Public Health Journal*, ix., 1918, p. 416.

[4] By the commissions for the blind of Massachusetts, New York, and Ohio a proportion as high as 10 per cent has been ascribed to the disease. In the home for blind babies of the International Sunshine Society in Brooklyn, the percentage of cases from it has sometimes reached 81, and in the Boston Nursery for Blind Babies 61. Report of New York Commission for the Blind, 1906, p. 87; Proceedings of American Association of Workers for the Blind, 1907, p. 25. See also Bulletin of Massachusetts Commission for the Blind, no. 1, 1909, p. 17.

[5] National Committee for the Prevention of Blindness, Publications no. 9, 1918; *News Letter*, Dec., 1918.

PUPILS IN SCHOOLS BLIND FROM OPHTHALMIA NEONATORUM

	Total number	*Number affected*	*Per cent affected*	*Number of admissions*	*Number affected*	*Per cent affected*
Alabama	102	38	37.3	17	4	23.5
Arkansas	156	16	10.3	8	2	25.0
California	96	19	19.8	11	3	27.3
Colorado	46	11	23.9	7	0	0.0
Connecticut	42	10	23.8	10	0	0.0
Florida	40	20	50.0	12	5	41.7
Idaho	22	3	13.6	3	0	0.0
Illinois	188	60	31.9	28	4	14.3
Indiana	119	14	11.8	9	1	11.1
Iowa	122	31	25.4	22	2	9.1
Kansas	104	19	18.3	14	1	7.1
Kentucky	130	30	23.1	11	0	0.0
Maryland	105	24	22.9	8	3	37.5
Massachusetts	312	78	25.0	48	5	10.4
Missouri	125	29	23.2	22	2	9.1
Montana	23	2	8.7	4	0	0.0
Nebraska	75	4	5.3	16	3	18.8
New Mexico	52	22	42.3	10	5	50.0
New York (State School)	188	44	23.4	22	0	0.0
New York (Institute)	115	27	23.5	18	4	22.2
North Carolina	210	25	11.9	29	1	3.4
North Dakota	28	6	21.4	2	0	0.0
Ohio	225	66	29.3	35	5	14.3
Oklahoma	111	24	21.6	26	2	7.7
Oregon	46	7	15.2	9	0	0.0
Pennsylvania	236	84	35.6	33	10	30.3
Pennsylvania (West.)	150	59	39.3	38	9	23.7
South Dakota	30	6	20.0	3	0	0.0
Tennessee	207	24	11.6	39	4	10.3
Texas (Colored)	74	22	29.7	16	3	18.8
Utah	39	8	20.5	3	0	0.0
Virginia	73	11	15.1	8	3	37.5
Washington	60	2	3.3	...	...	....
Wisconsin	137	33	24.1	18	4	22.2
	3,788	878	23.2	559	85	15.2
In day schools:						
Chicago	51	16	31.4	10	1	10.0
Cincinnati	53	6	11.3	6	0	0.0
Detroit	57	14	24.6	26	3	11.5
Jersey City	9	2	22.2	1	0	0.0
Milwaukee	61	11	18.0	10	1	10.0
New York City	83	7	8.4	0	0	0.0
Racine	7	3	42.9	2	0	0.0
Total	321	59	18.4	55	5	9.1
Grand total	4,109	937	22.8	614	90	14.7

The average proportion of pupils blind from this disease among the total number in the several schools is thus 22.8 per cent, or a little under one-fourth, and the average proportion so blind among new admissions, 14.7 per cent, or a little under one-sixth.

Measures Necessary for the Prevention of Ophthalmia Neonatorum

The prevention of blindness from ophthalmia neonatorum is not inherently difficult, involving as it does only the taking of very simple but very necessary measures. It can be accomplished with little trouble, and the work if rightly performed is almost certain to be effective. The all-important consideration is the injection into the eyes of the infant shortly after birth, of a very weak solution of silver nitrate or of certain other derivatives of the silver salts,[1] with perhaps also a washing out with a neutral salt solution. Should the eyes of the child be healthy, no harm is done; should, however, they be infected, the disease germs are at once killed. This method, the efficacy of which is now generally recognized, is sometimes called the Credé method, from the name of the discoverer, Professor Carl Credé, who first made application of it in a hospital in Leipsic, Germany, in 1881.[2]

The method, then, of checking ophthalmia neonatorum is the administration of a prophylactic at birth, or in any event within a short time after the appearance of the infection. It would seem that, now that the value and importance of the measure have been demonstrated, this would be done as a matter of course; yet until comparatively recently such procedure has been hardly more than occasional, and at present it is far from being general even in some enlightened communities. The failure is in good part due to the ignorance respecting the disease among the public, and in part to the negligence or want of concern among practitioners. In many sections little or no regard

[1] The silver nitrate solution should not be over 2 per cent, or perhaps better, not over 1 per cent. Other solutions sometimes recommended are argyrol, protargol, and callargol. The solution of argyrol is usually from 15 to 40 per cent.

[2] It was found that without the use of a prophylactic, 7.4 per cent of the babies born in the hospital were blind, and that with its use the proportion was reduced to 0.5 per cent, and later to 0.25 per cent. Modern hospitals keeping records show very low proportions. On the beneficial results of the method, see American Association for the Conservation of Vision, Monograph Series, 1911, no. 1.

has been paid to the matter, indifference being displayed by both physicians and midwives [1]—though at present in a number of places, as we are to find, the situation is now being changed for the better.

To remedy this condition, and to insure the general use of a prophylactic, several things are necessary: (1) direct requirement of the use of a prophylactic, or report of all births a short time thereafter, with a statement as to whether or not a prophylactic has been used; (2) report of all cases of eye trouble occurring within a few weeks after birth, with attention to uncared for ones by health authorities; (3) the providing of supplies of the prophylactic without charge if called for; and (4) as an incidental, but very important, measure, the proper and sufficient regulation of the practice of midwives, in whose hands occur such a large number of births.

The best and surest measure, aside from that directing absolutely the use of a prophylactic at birth, and perhaps more efficacious than it, is the one which requires the reporting to the health authorities of all births within a day

[1] See *Maryland Medical Journal*, lii., 1909, p. 489. In Massachusetts it was found at one time that of 154 physicians attending 7,651 births in eight cities, 21.1 per cent always used a prophylactic, 45.3 per cent in suspected cases, and 33.6 per cent never. With respect to 178 physicians in the same State, in attendance upon 5,949 births in five cities, or 48 per cent of all the births in them, only 17 per cent were discovered to use a prophylactic regularly, 41 per cent sometimes, and 42 per cent not at all. Of 31 midwives, none was found to employ a prophylactic. American Association for the Conservation of Vision, Monograph Series, 1911, no. 1; *Survey*, xxv., 1910, p. 9; Massachusetts Commission for the Blind, Sight Saving Bulletin, 1910, no. 7; *Journal of American Public Health Association*, i., 1911, p. 455. Of 388 cases of ophthalmia neonatorum found in an investigation covering a period of four years in a Boston hospital, 368 had been attended at birth by physicians. 4th Report of Social Service Work of Massachusetts Charitable Eye and Ear Infirmary, 1912. See also 2nd Report, 1910. Of 108 cases in New York City, 62 were attended by physicians, 43 by midwives, and 3 by neighbors. No prophylactic was employed by 48 of the physicians, nor by 32 of the midwives. In three of these cases total blindness resulted. Report of Committee for the Prevention of Blindness, 1913, p. 8. See also *Survey*, xxv., 1911, p. 522. Of 1,236 cases of inflammation of the eye in Ohio during the year ending June 30, 1917, the percentage reported by physicians was 47.5, by midwives 26.0, and by nurses 19.9. The respective percentages in the following year were 31.7, 41.3, and 19.7. (Most of the remaining cases were reported by institutions.) Of 37 cases of slightly impaired vision in the former period, 31 were attended by physicians, of whom 20 used a prophylactic; and 4, by midwives, of whom 2, and possibly 3, used such. From August, 1915, to December, 1916, 78 per cent of the physicians attending cases of eye inflammation employed a prophylac-

or two after birth, by the physician or midwife in attendance, or by a member of the family or other person interested, with the inclusion of a statement as to whether a prophylactic has been employed. This will not only make certain that proper attention is given to the matter as nothing else will, but it permits the following up of every birth by a regular nurse to see that all goes well.

The second precaution lies in the requirement of the reporting of every case where there has been in the eyes of an infant in its first days, an affection which might lead to blindness. Even though no prophylactic has been used at the time of birth, there may yet be hope of saving the eyes of an infected child if there is immediate report of the appearance, within two or three weeks after birth, of either redness, inflammation, or discharge in the eye, and prompt action is then taken. Such condition is likely to denote the presence of infection, while skilled treatment will in any event insure the preservation of the sight.[1] The report should be made not later than six hours after the notice of the trouble, and by the physician, midwife, or other person who has reason to suspect the existence of the disease. The duty of attending upon all otherwise uncared for cases should be imposed upon the local health authorities. Nurses should also be employed for the careful following up of cases, and hospital facilities should be afforded for serious ones.

Next, in order that there may be no excuse for failure to employ a prophylactic, the preparation should be provided free to all who will use it. An amount sufficient to be dropped into one eye may be placed in a small ampoule, to be dispensed by the local or State authorities. The total

tic, and 95 per cent of the midwives. *Ohio Public Health Journal*, ix., 1918, p. 416; *News Letter*, Dec., 1918.

[1] It has been clearly proved that many cases of ophthalmia neonatorum could have been prevented if such course had been pursued. Of 116 cases investigated by the Massachusetts Charitable Eye and Ear Infirmary in 1909, it was found that every one was due to failure to recognize its seriousness, and to make report. In seven cities of Massachusetts, with 18,421 births in a given time, only 33 cases of this disease were reported, while on investigation 108 cases were discovered. *Survey*, xxv., 1910, p. 9.

cost will be but little, a few thousand dollars answering for any one State each year.

In addition to the foregoing direct measures, special attention will have to be paid to the practice of midwives. It is they whose services are availed of to such a great extent among the poor in large cities, and also in not a few rural districts. In certain foreign quarters of cities their services are almost exclusively demanded.[1] The danger from midwives lies in the circumstance that many are illiterate and unclean, and little likely to take the necessary precautions to prevent blindness.[2] About them will have to be put certain safeguards for the protection of the child. Attendance upon obstetrical cases should not be allowed until there has first been secured a license, which should be given only after suitable examination, and preferably also after a certain period of training, and which should be revocable for cause. There should be established full regulations for their practice, including periodic inspection, and the prescription of the outfit to be employed.[3]

[1] The percentages of births in the hands of midwives in certain cities in 1912 were as follows: San Francisco, 25.0; Omaha, 25.0; New York, 39.2; Chicago, 45.0; Toledo, 51.0; New Orleans, 70.0; St. Louis, 75.0. In certain States they were as follows: Alabama, 60.0; Mississippi, 80.0; North Carolina, 50.0; Maryland, 40.0; Virginia, 35.0; and Wisconsin, 50.0. Report of Committee for the Prevention of Blindness, 1913, p. 9. The general estimate for the United States is 40 per cent. In five cities of Massachusetts, the proportion is found to range from 4.0 to 27.0 per cent. In New York City the number of births in the hands of midwives in 1914 was 52,997. *Ibid.*, 1914, p. 25. The proportion in this city from 1905 to 1914 is said to range from 37.6 per cent to 42.1 per cent. *American Journal of Obstetrics*, lxxiii., 1916, p. 388.

[2] Of 500 midwives investigated in New York City in 1906, less than 10 per cent could be called capable and reliable, 20 per cent were said to have filthy clothing or homes, while a little over one-half were described as fair. In respect to nationality, 27 per cent were Austro-Hungarian, 25 per cent Italian, 22 per cent German, 14 per cent Russian, and but 4 per cent American. *Charities and the Commons*, xvii., 1907, p. 666. In Baltimore 14.6 per cent of the midwives have been reported to be unable to read and write. *Survey*, xii., 1909, p. 399. In Cleveland, of 91 investigated, only 5 were found able to read and write the English language, and only 10 able to read and write any language. Ohio Commission for the Blind, "Practical Work in Sight Saving," 1911, p. 6; Report of Cleveland Society for Promoting the Interests of the Blind, 1911, p. 23. In respect to the general situation in the country, see Report of Committee for the Prevention of Blindness, 1913, p. 14.

[3] On the general condition of midwifery in the United States and its relation to possible blindness, see *Maryland Medical Journal*, lii., 1909, p. 494; *New York Medical Journal*, xci., 1910, p. 898; *Illinois Medical Journal*, xxi., 1912, p. 419;

The foregoing constitute the main and most necessary steps to prevent the occurrence of blindness from ophthalmia neonatorum. There are, at the same time, several other measures that may well be invoked to attain this end. Circulars and other printed matter concerning the disease and the means to be employed to avoid it should be prepared and given a wide circulation, especially among mothers, supplemented by lectures and by other forms of popular education. To make sure of the acquaintance of physicians with the provisions of the law or with the public health regulations, it is advisable that copies of them be included with birth certificates. In the keeping, moreover, of proper records in hospitals, and in the periodic reports of physicians, midwives, and nurses, no little may be accomplished in the detection of the trouble and in the affording of timely treatment.

In attacking this disease, however, so far as it is of venereal origin, as well as other diseases of such character, there yet remains something to be told beyond the several measures that have just been presented, for the real cause of a great part would not thus be approached. The disease, which is a communicable one, is in large degree contracted from immoral practices, and often passes from the innocent as well as from the guilty. The black scourge which it represents, with its blight and suffering, is one of the most horrible in human annals. In its eradication will no small portion of the problem of blindness among men be solved.

Present Extent of Measures Designed to Check Ophthalmia Neonatorum

The public measures that have so far been enacted for the prevention of ophthalmia neonatorum follow, in varying

American Journal of Public Health, iv. (n. s.), 1914, p. 197; *American Journal of Obstetrics*, lxxiii., 1916, p. 385; *Survey*, xxvii., 1911, p. 1372; *American Journal of Sociology*, xx., 1915, p. 684; *Delineator*, Dec., 1917; Proceedings of National Conference of Charities and Correction, 1910, p. 350; Publications of Committee for the Prevention of Blindness, 1913, "The Midwife in England" (C. C. Van Blarcom), pp. 13, 56; Report, 1908, p. 7; 1915, p. 36; Proceedings of American Association for the Study and Prevention of Infant Mortality, 1915, pp. 90, 163.

degree, the program which has been outlined. They have in large part been secured as the result of a campaign for the prevention of blindness, which has been especially concerned with this disease.[1] The most frequent provision is the requirement that report be made to the proper health authorities of all cases of trouble with the eyes of newly born infants, first adopted in New York in 1890. Whether by statute or by direction of the State department of health, it is now found in the following States:[2] Alabama, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin. In these States it is in the main required that in case of inflammation, swelling, or discharge in the eyes of an infant within a certain time after birth, notice must be given to the health authorities or to a physician. In most instances the time after birth in which the infection may be noted is two weeks, though it may extend from ten to thirty days. The report must usually be made within thirty-six hours after the discovery, though in a few States it must be made immediately. In the following States the local health officers are empowered or required, by statute or by regulation, to secure attention for uncared for cases, or to advise parents of the danger: Alabama, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Indiana, Kansas, Kentucky, Maryland, Massachusetts, Minnesota, Mississippi, New

[1] See Chapter XI.

[2] These citations are in the main from the publications and the advices of the National Committee for the Prevention of Blindness. See Publications, no. 9, 1916; *Ophthalmology*, xii., 1916, p. 276; United States Children's Bureau, Publications, no. 16, 1916, p. 106; United States Public Health Bulletin, 1911, no. 49; American Encyclopedia of Ophthalmology, 1916, ix., p. 7137.

Hampshire, New Jersey, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Utah, Vermont, Virginia, West Virginia, and Wisconsin. In the following States the use of a prophylactic is expressly required of midwife practitioners, and in some of physicians also: Colorado, Delaware, Georgia, Idaho, Indiana, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Nebraska, North Carolina, North Dakota, Ohio, Rhode Island, Tennessee, Virginia, West Virginia, and Wisconsin. In addition, it is recommended in Arizona, District of Columbia, Illinois, and Washington. On all birth certificates a statement must be made whether or not a prophylactic has been employed, in Alabama, Arizona, California, District of Columbia, Illinois, Indiana, Michigan, Minnesota, Mississippi, Nebraska, New Jersey, New York, North Dakota, Ohio, Oklahoma, Virginia, West Virginia, and Wisconsin. The law regarding the reporting of the disease must be printed on the birth certificate, with perhaps a warning as to the situation, in Alabama, Arizona, Arkansas, Delaware, Indiana, Massachusetts, Mississippi, and Nebraska. In some instances it is further required that a copy of the law be distributed among practitioners. In the statute of Kentucky, which applies also to trachoma, it is provided that instruction regarding the disease be afforded to physicians, midwives, and other persons. In a number of States the health authorities are authorized to disseminate information. The penalty attached to the violation of the several provisions of the law is a fine ranging from $5 to $500, though usually from $10 to $50, with perhaps a larger sum for a second offence, or in some cases imprisonment for a term ranging from one to six months.

The prophylactic is supplied free, either by statute or by regulation of the health department, in the following States: California, District of Columbia (to midwives), Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Minnesota, Mississippi, New Jersey, New York, North Carolina, Ohio, Oklahoma, Rhode Island, South Dakota,

Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin. In some of them an express appropriation is made for the purpose, this ranging from $500 to $5,000. With or without direct authorization, many State departments send out literature of various kinds in regard to ophthalmia neonatorum and its prevention, besides in numerous instances conducting illustrated lectures and exhibits. Similar work on a smaller scale is done by some local health authorities.[1]

Provisions applying to the practice of midwives, despite its intimate connection with the matter of the prevention of this form of blindness, belong to general health laws. In a few States, however, there is express reference to the possible effects in the way of blindness.[2]

The laws relating to the prevention of ophthalmia neonatorum have in general been on the statute books a rather brief period of time; hence it is perhaps too soon yet to know just what results have been produced by them. In many cases, especially in the first few years after their enactment, they appear to have had but little enforcement, in some considerable difficulty being said to have been encountered.[3] However, when determined efforts have been put forth, the situation has been much improved. In a number of the States convictions for violation have been secured, which have had a quite wholesome effect.[4] In a

[1] In a number of cities the disease has been declared to be contagious, and to be treated accordingly, while in some steps have been taken in the way of following up of cases. Other important regulations have also been adopted by State or local departments of health, departments of charities, or other public authorities, especially in requiring the use of a prophylactic in all lying-in hospitals.

[2] In the statutes of most States midwives are referred to in connection with births, but in only about one-half are they particularly provided for. In some they are expressly or impliedly allowed to practice without restriction. In a few they are required at least to be registered, and in a larger number they must be licensed, usually after an examination. In scarcely any is a period of training prescribed.

[3] Fines at first where imposed were often small. On the slight results from the laws, see Ohio Bulletin of Charities and Correction, xx., 1914, 3, July, p. 23; Proceedings of National Conference of Charities and Correction, 1912, p. 326.

[4] In Boston, after a conviction had been secured, the number of cases reported arose in eight months from 10 to 160. Report of Committee for the Prevention of Blindness, 1911, p. 4. See also *Journal of American Public Health Nursing*, i., 1911, p. 457. In Cleveland, after an arrest, there were 8 cases reported in the next two

following chapter we shall find that the proportion of blindness from the disease has been appreciably lessened in the last few years. This is fairly clear evidence that the laws have not been without influence, though no small part of the credit at the same time is due to the educational campaigns which have been conducted, and to the increased attention to the matter by general health agencies, especially in follow-up work.[1]

weeks. Report of Ohio Commission for the Blind, 1912, p. 13. In Illinois in six months of 1915 the number was 19; and in a similar period in 1917, 105. Reports of Illinois Society for the Prevention of Blindness. In 1913 there were 1,396 cases reported in Boston; and in 1914, 2,735 in Massachusetts. In New York City the number in 1913 was 88; in 1914, 167; and in 1915, 254. In Cleveland the number in 1913 was 600; and in nine months of 1916, 857. Report of Committee for the Prevention of Blindness, 1914, p. 11; 1915, p. 32; *News Letter*, Oct., 1916. In 87.4 per cent of the births in certain cities in California in 1917, a prophylactic was used. California Board of Health, Bulletin, March, 1918. See also *Boston Medical and Surgical Journal*, clxv., 1911, p. 656; *Lancet-Clinic*, lxix. (n. s.), 1912, p. 172; Report of Massachusetts Commission for the Blind, 1911, p. 20; 1914, p. 79; 1915, pp. 15, 63; Transactions of Medical Society of State of North Carolina, 1915, p. 299; *Ohio Public Health Journal*, viii., 1917, pp. 440, 446; ix., 1918, p. 416; *News Letter*, Dec., 1918.

[1] For an account of effective work in the city of Buffalo for the protection of the sight of babies (describing the activities of health agencies, including pre-natal advice of clinics, and laboratory tests of the discharge from the eyes of the newborn, the activities of agencies for the care of children, and other activities), see National Committee for the Prevention of Blindness, Publication no. 13, 1917, "Sight-Saving a Civic Duty" (Winifred Hathaway). On follow-up work, especially on the part of nurses and hospitals, see *Archives of Ophthalmology*, xliii., 1914, p. 501; *Outlook for the Blind*, i., 1907, p. 108; Proceedings of American Association of Workers for the Blind, 1907, p. 29; Report of Cincinnati Association for the Blind, 1912, p. 4; 1st Report of Social Service Work at Massachusetts Charitable Eye and Ear Infirmary, 1908; Report of Committee for the Prevention of Blindness, 1911, p. 4; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 62; *Annals of Ophthalmology*, xxvi., 1917, p. 661.

Note to Chapter VIII.—On the extent of ophthalmia neonatorum and on the possibilities of its prevention, see Bulletin of American Academy of Medicine, Oct., 1894, p. 598; *Boston Medical and Surgical Journal*, cxxxi., 1889, p. 401; clx., 1909, p. 128; clxiii., 1910, p. 103; clxv., 1911, p. 656; clxviii., 1913, pp. 117, 275; clxxiv., 1916, p. 745; *Medical Record*, lxxi., 1907, p. 200; lxxii., 1907, p. 226; *American Journal of Obstetrics*, lvi., 1907, p. 665; *Albany Medical Annals*, xxx., 1909, p. 335; *Massachusetts Medical Journal*, xxvi., 1906, p. 471; *Virginia Medical Semi-Monthly*, xii., 1907, p. 265; xv., 1910, p. 409; *American Journal of Ophthalmology*, xiv., 1897, p. 225; xv., 1898, p. 289; xix, 1902, pp. 334, 361; xxiv., 1907, p. 289; xxvii., 1910, p. 257; xxviii., 1911, p. 353; xliv., 1915, p. 521; *Journal of Tennessee Medical Association*, ix., 1916, p. 124; *Southwestern Journal of Medicine and Surgery*, xxv., 1917, p. 58; *Journal of Georgia Medical Association*, v., 1916, p. 181; *Indiana Medical Journal*, xxvi., 1908, p. 263; *Ophthalmic Record*, xxii., 1913, p. 717; *New York Medical Journal*, lxv., 1897, p. 869; xc., 1909, p. 801; lcix., 1914, p. 1029; ci., 1915, pp. 1088, 1099, 1159; *Ohio State Medical Journal*, v., 1909, p. 466; x., 1914, p. 469; *Journal of Amer-*

ican Medical Association, xlvi., 1906, p. 1262; l., 1908, p. 1745; lii., 1909, p. 876; lx., 1913, p. 2004; lxi., 1913, p. 705; lxii., 1914, p. 145; lxiii., 1914, p. 1756; lxv., 1915, p. 1317; *Maryland Medical Journal*, xxv., 1891, p. 23; lii., 1909, p. 489; *Iowa Medical Journal*, xvi., 1910, pp. 367, 425, 429, 437; *Interstate Medical Journal*, xvi., 1908, p. 722; xx., 1913, p. 545; *Journal of Indiana State Medical Association*, iii., 1910, p. 339; *Philadelphia Medical Journal*, iii., 1899, p. 336; ix., 1902, p. 664; *American Journal of Public Hygiene*, xx., 1910, p. 181; *Journal of Society of Sanitary and Moral Prophylaxis*, xi., 1915, p. 23; *Illinois Medical Journal*, xvi. (n. s.), 1909, p. 643; xx., 1911, p. 291; xxv., 1914, p. 182; *West Virginia Medical Journal*, ii., 1908, p. 272; ix., 1915, p. 331; *American Journal of Ophthalmology*, i. (n. s.), 1918, pp. 43, 216, 290, 377; *St. Louis Medical Review*, lix., 1910, p. 37; *Journal of Minnesota State Medical Association*, xxx., 1910, p. 47; *Journal of Arkansas Medical Society*, vii., 1911, p. 229; *Lancet-Clinic*, lxii. (n. s.), 1909, p. 230; *Kentucky Medical Journal*, xiv., 1916, p. 418; xv., 1917, p. 215; *New York State Journal of Medicine*, vii., 1907, pp. 136, 164; ix., 1909, pp. 205, 420; xii., 1912, p. 572; *Archives of Ophthalmology*, xxxv., 1906, p. 511; *Journal of South Carolina Medical Association*, xi., 1915, p. 43; *Journal of Maine Medical Association*, v., 1915, p. 197; *Trained Nurse and Hospital Review*, l., 1913, p. 138; *The Nurse*, i., 1914, p. 165; *Modern Hospital*, v., 1915, pp. 127, 206, 288; *Pennsylvania Medical Journal*, xvi., 1913, p. 278; xvii., 1913, p. 186; *Medical Times*, xli., 1913, p. 33; xlii., 1914, p. 349; *Medical Review of Reviews*, xxiv., 1918, p. 385; *Journal-Lancet*, xxxvi., 1916, p. 600; xxxviii., 1918, p. 350; *Journal of American Institute of Homeopathy*, xi., 1918, p. 269; *Canadian Medical Association Journal*, viii., 1918, p. 724; *Good Health*, xliv., 1909, p. 911; American Medical Association, Conservation of Vision Pamphlets, xiii. ("Infant Blindness"); United States Public Health Bulletin, 1911, no. 49; Report of New York State Department of Health, 1915, p. 277; Illinois Institution Quarterly, i., 1910, 1, May, p. 11; ii., 1911, 2, Sept., p. 52; Illinois Bulletin of Public Charities, x., 1908, 3, June, p. 6; Report of Illinois Charities Commission, 1910, p. 32; Bulletin of Iowa Institutions, xi., 1909, pp. 148, 226; Proceedings of American Association for the Study and Prevention of Infant Mortality, 1916, p. 308; *Chambers's Journal*, lxiii., 1886, p. 316; *Charities and the Commons*, xx., 1908, p. 518; *Survey*, xxxvii., 1916, pp. 41, 340; *Boston Common*, Oct. 7, 1911; *Children's Charities*, March, 1910; *Outlook for the Blind*, vii., 1913, p. 14; Report of Massachusetts Commission for the Blind, 1914, p. 79; 1915, p. 60; Report of Cleveland Society for Promoting the Interests of the Blind, 1911, p. 14; United States Children's Bureau, Publications, no. 4, 1915, p. 30 ("Prenatal Care").

On trachoma, see *Journal of American Medical Association*, lviii., 1912, p. 925; lxi., 1913, p. 1110; *Pennsylvania Medical Journal*, xii., 1909, p. 375; xvi., 1913, p. 265; *New York Medical Journal*, lxxix., 1904, p. 684; *American Journal of Ophthalmology*, xxxii., 1915, p. 173; xxxiv., 1917, p. 349; *Southern Medical Journal*, viii., 1915, p. 814; x., 1917, p. 130; *Ophthalmic Record*, xxi., 1912, p. 223; xxiii., 1914, p. 180; *American Medicine*, vi., 1903, p. 591; *New York Lancet*, July, 1900; *Medical Record*, lxiv., 1903, p. 207; lxvi., 1904, p. 1052; lxxx., 1911, p. 968; *Dietetic and Hygienic Gazette*, xix., 1903, p. 321; *Old Dominion Journal of Medicine and Surgery*, xx., 1915, p. 253; *American Journal of Tropical Diseases and Preventive Medicine*, ii., 1914, p. 56; *Outlook for the Blind*, x., 1917, p. 104; *Survey*, xxiv., 1910, p. 654; xxxv., 1916, p. 726; *Safety Engineering*, xxix., 1915, p. 33; *North American Review*, clxxvii., 1903, p. 766; *Technical World Magazine*, xix., 1916, p. 27; *Current Literature*, xxxiv., 1913, p. 337; *School Science and Mathematics*, xiii., 1913, p. 600; Allen Greenwood, "Military Ophthalmic Surgery," 1917, p. 53; Proceedings of International Congress on Hygiene and Demography, 1912, ii., p. 79; Proceedings of American School Hygiene Association, 1917, p. 253; United States Public Health Reports, Supp., no. 8, 1913; no. 28, 1917; Bulletin, no. 19, 1907; Ohio Board of Health, Bulletin, April, 1914; New York City Department of Health, Bulletin, June, 1917, reprint no. 59.

CHAPTER IX

BLINDNESS AND ACCIDENTS

Causes of Accidents and Injuries to the Eye

From accidents and injuries blindness is produced in two ways—

Either through direct damage to the eye which destroys the visual apparatus or is followed by infection resulting in such destruction, or indirectly through intracranial lesions which operate to destroy sight through injury to the optic nerve, either by direct severance or laceration or by causing inflammation resulting in atrophy.[1]

These constitute, as we have seen, the leading single cause of blindness, being, together with sympathetic ophthalmia, responsible for a little more than one-eighth (13.5 per cent) of the entire amount in the United States. More or less akin to blindness from such causes is that from poisoning, amounting to 0.4 per cent; from foreign substances in the eye, amounting to 0.7 per cent; from exposure to heat, amounting to 1.5 per cent; and from strained eyes, amounting to 0.8 per cent. That is, slightly over one-sixth (17.9 per cent) of all blindness is occasioned by external injury of some kind, or results from causes other than disease.[2]

Probably much the greater part of this loss of sight is to be set down to two things: to personal carelessness or neglect either on the part of the victim or on the part of his associates, and to the conditions of modern industry.[3] Of the blindness which is to be attributed to the former, a considerable portion is to be ascribed to the improper

[1] "The Blind in the United States," p. 100.

[2] On individual causes of blindness, as reported in legal cases, see Chapters XXXIX, XL, XLII.

[3] In many cases if the sufferers from eye injuries had the means, they could meet the immediate, and perhaps costly, treatment necessary for the saving of sight.

or excessive use of the eyes, this being mostly, but not altogether, the fault of the individual concerned. It is a matter of common knowledge that the organs of sight are subjected to frequent abuse, even though only impairment of the sight, and not full blindness, may be the consequence. The eyes are often employed in a poor light when a change could easily be made; while in too many instances they are overtaxed after they have earned a rest. With a great number of persons imperfect or defective eyesight is made worse by neglect or delay in having due examination and treatment at competent hands, or in having proper eye-glasses fitted.

In other cases the eye receives injury from the striking or penetrating of it by some object from outside. This may be brought about in various ways. Very frequently harm comes from the entering into the eye of a cinder or other fine particle, and also from crude attempts at its removal; from shattered glass; and from loose or broken substances generally. Many eye accidents are suffered by both children and adults in the mishandling of small pointed instruments, as knives, scissors, pins, and the like. Other accidents are to be laid to the free use of toy pistols, air rifles, slingshots, fireworks, and similar devices used in sport or in celebration; [1] and to gunshot wounds occasioned in hunting and otherwise. There is also damage to the eye from time to time in collision or sharp contact with divers objects.[2]

A source of danger to the sight of a different kind lies in the use of the drug known as wood alcohol, or methyl alcohol, or wood spirits. There is little to fear from it in its original form, chiefly because of its uninviting odor and taste; but when these are removed, or when the liquid is "deodorized," or "rectified," and there is given the appear-

[1] On accidents to the eye occurring on Independence Day, see p. 241.

[2] On general eye accidents, see *Interstate Medical Journal*, xxii., 1915, p. 457; American Medical Association, Conservation of Vision Pamphlets, 1913, ii. ("Industrial and Household Accidents"); xvi. ("Whiskey, Tobacco and Drugs and the Eye"); xiii. ("Usual and Unusual Eye Accidents"); American Encyclopedia of Ophthalmology, 1916, viii., p. 6200.

ance of the regular grain alcohol, under various names, especially of "spirits" of one kind and another, it offers itself as a ready and comparatively inexpensive substitute for the grain alcohol. It remains, however, a deadly poison, from the swallowing or inhaling of even a very small quantity of which atrophy of the optic nerve or other form of blindness is liable to be induced. Improperly or inadequately labelled, and with little to indicate the true nature of its contents, it is sold in grocery and drug stores and in cheap saloons. It is employed as a beverage; as a fuel in stoves and lamps; in the preparation of bay rum, witch hazel, and cosmetics, especially by barbers; as an adulterant in certain industrial processes; and for other purposes.[1] There is also danger to the eye from other drugs, including tobacco, particularly from its excessive use.[2]

To unfortunate operations performed upon the eye is to be attributed a small portion of blindness, most of which is due to unskilled or careless treatment. Injury is especially liable to result from the failure to employ antiseptic preparations, from the application of poultices, or from the resort to various nostrums. In the use, also, of cheap and unsuited eye-glasses there is involved serious risk to the eyesight.[3]

From the consideration of injuries consequent upon personal acts, for which the sufferer or his fellows is mainly responsible, we pass to that of injuries occurring for the most part in circumstances beyond the power of the individual to control, or under general social or industrial conditions. Here, again, eyestrain is to be charged with no little baneful results; but in this case the blame is to attach to the surroundings involved. In not a few buildings

[1] On the dangers from wood alcohol to the sight, see *Survey*, xxix., 1912, p. 211; *Pennsylvania Medical Journal*, xiv., 1910, p. 637; *Journal of American Medical Association*, xliii., 1904, pp. 972, 1058, 1213, 1280; lx., 1913, p. 1762; *Ophthalmology*, xii., 1916, p. 618; Report of Committee for the Prevention of Blindness, 1912, p. 7; Conservation of Vision Pamphlets, 1913, xx. ("Blindness from Wood Alcohol").

[2] There is sometimes danger from the acrid fluid used in the core of golf balls.

[3] On fraudulent eye remedies, see Report of Massachusetts Commission for the Blind, 1914, p. 85.

in which people congregate, the lighting arrangements may be far from good.[1] This is especially true of school buildings, where the pupils may be called upon to do their work in constant peril to their eyes. In some instances also books may be used which are poorly printed, or wall blackboards may be at too great a distance, a further strain thus being placed upon the organs of sight. The most natural result from these conditions is nearsightedness, which may be of a progressive character. That a very considerable proportion of the children in the schools of the country have eyesight which is more or less defective, is attested by cumulative evidence.[2] By a committee of the National Education Association it was found that of 34,426 school children examined in six cities for whom report was made, 13.4 per cent had marked defects of vision.[3] In a general investigation of 559,863 children in certain large cities, 15.3 per cent were discovered to have eye defects.[4] An investigation in 1916 of 240,000 school children in New York City and of 89,179 in Boston disclosed the fact that 9.8 per cent in the former and 9.6 per cent in the latter had defective vision.[5] Of 54,623 children examined in Chicago in 1907, there were 10.7 per cent recorded in this condition.[6] In an examination of school children in certain cities in Massachusetts, it was found that 4.1 per cent in some and 4.7 per cent in others had not more than one-half of normal

[1] Of the rejections in the first draft of the National Army in 1917, 21.7 per cent were due to eye trouble, this proportion being nearly three times as great as the proportion for any other single cause. *Survey*, xl., 1918, p. 90; *News Letter*, Feb., 1918.

[2] On special classes for partially sighted children, see pp. 313–315.

[3] Proceedings, 1903, p. 997. See also *ibid.*, 1911, p. 1051; 1916, p. 821.

[4] L. H. Gulick and L. P. Ayres, "Medical Inspection of Schools," 1913, p. 38.

[5] *News Letter*, April, 1917. See also *New York State Journal of Medicine*, xvi., 1916, p. 227; *Outlook*, civ., 1913, p. 997. In New York it has also been found that of 111,280 children, 8.0 per cent had redness of the eye, headache, or discomfort when using the blackboards from their seats; 0.3 per cent were dropped for poor work due to defect or strain of the eye; and 0.5 per cent were doing work over again as a result of defective vision. Report of Committee for the Prevention of Blindness, 1911, p. 8.

[6] Report of Chicago Board of Education, 1907, p. 190. See also *ibid.*, 1900, p. 99; *Illinois Medical Journal*, xxv., 1914, p. 79.

vision.[1] Of 469,199 pupils in fourth class district (rural) schools in Pennsylvania, 83,000, or 17.7 per cent, were reported to have eye defects.[2]

Next, in many factories and workshops we find lighting conditions of a character detrimental to the eyesight, these perhaps being most unfavorable in "sweated" industries in large cities.[3] In other buildings, used for business or for dwelling purposes, the lighting facilities are very frequently inadequate or improperly arranged.[4] In certain fine work with the eyes, as in watch-making and other processes, or in prolonged work with very light-colored goods, there is an added strain imposed upon the sight.[5]

Accidents of another kind occasioned in industrial processes, and more immediate in their results, are now to be considered. These are in the striking of the eye by objects, in the entry into it of injurious substances, or in other harm-

[1] Report of Massachusetts Commission for the Blind, 1915, p. 34; 1916, p. 65.

[2] *New York State Journal of Medicine*, xvi., 1916, p. 486; *News Letter*, April, 1916. Of 2,000 school children examined in and near San Francisco, there were 30.6 per cent with vision below normal in one or both eyes, though only a little over 14 per cent had vision less than two-thirds normal in both eyes. *Interstate Medical Journal*, xvi., 1908, p. 722. See also *Child Study Monthly*, vi., 1901, pp. 45, 283; W. H. Allen, "Civics and Health," 1907, p. 72; L. P. Ayres, "Laggards in Our Schools," 1913, p. 117; *Archives of Ophthalmology*, lxiv., 1915, p. 523.

[3] In New York City, it was found that there was insufficient lighting in 36.7 per cent of the laundries investigated; in 49.2 per cent of the candy factories; in 48.4 per cent of the printing establishments; in 50.0 per cent of the ice cream plants; in 64.8 per cent of the chemical establishments; and in 33.3 per cent of the garment making establishments. G. M. Price, "The Modern Factory," 1914, p. 232. In the cloak, suit, and skirt, and the dress and waist industries of New York, of 2,906 persons whose eyes were tested, only 25.2 per cent had normal vision in both eyes. United States Public Health Service, 1915, Bulletin, no. 71 ("Hygienic Conditions of Illumination in Workshops of the Women's Garment Industry"). Of 8,141 employees of the B. F. Goodrich Company, of Akron, Ohio, whose eyes were examined, 6,328, or 77.8 per cent, were found to have normal vision in both eyes. B. F. Goodrich Co., "Importance of Eyesight and Its Conservation," 1915; *Ophthalmology*, xi., 1915, p. 437; *Ohio State Medical Journal*, xi., 1915, p. 309. See also *Survey*, xli., 1918, p. 17.

[4] On possible danger to the eye in moving picture exhibitions, see New York City Department of Health, Monthly Bulletin, Aug., 1910; *Medical Times*, xliii., 1915, p. 228; *Journal of American Medical Association*, lix., 1912, p. 2254; *Annals of Ophthalmology*, xxvi., 1917, p. 427; *New Orleans Medical and Surgical Journal*, lxv., 1912, p. 304; *Current Literature*, xli., 1906, p. 337; *Literary Digest*, xlviii., 1914, p. 1310; li., 1915, p. 208; *Scientific American*, Supp., lxxvii., May 2, 1914.

[5] To miners there is special danger, from the strained position of their eyes and faces while at work, in the form of "miner's nystagmus." See United States Bureau of Mines, Bulletin 93, 1916.

ful action upon it, in certain occupations. They come mainly from flying bits from tools or materials, from the impact of parts of machinery or of other bodies, from intense light directed into the eye, and from contact with heated substances or with noxious chemical substances.

In work with abrasive wheels, including polishing, buffing, and grinding wheels, particularly when in rapid revolution, it is very easy for dust or other fine particles to fly into the eye.[1] In the chipping or cutting or driving of metal, or in the use of burred, "mushroomed" or otherwise defective tools, whether hand or power tools, the eye may be hit by chips or slivers.[2] The same is true to a large extent with the hewing or carving of minerals,[3] and also with the cutting of wood.[4] In sand blasting or in other spraying operations the eye is similarly exposed. In the bursting of boilers or of water or lubricator gauges fragments may be hurled into the eye. Like results are possible in bottling works, both from shattered glass and from popping corks. In the handling of explosives or in propinquity to them, there is peculiar peril to the sight. In the breaking of belts or in blows from other objects the eye is further threatened. In all cases where a foreign substance enters the eye, there is danger not only from punctures or lacerations, but also from subsequent irritation, made all the worse if infection happens to be conveyed.

When the eye is subjected to a powerful glare, there may result serious impairment of vision. This may occur in close and continued contact with a bright blaze; or with a

[1] This is especially the case in work with emery wheels and grindstones. There is similar danger in such operations as japanning and scaling.

[2] The operations involved are of various kinds. Most are concerned with iron and steel, though worse effects may be produced from other metals, especially brass and copper. Some of the most important of such operations are chipping, chiseling, riveting, reaming, drilling, cutting of rivet heads, cutting or turning of metal on machines, metal sawing, caulking, etc. For particular operations causing injury to the eye, see following tables. See also individual cases in Chapters XXXIX, XLII.

[3] Injury is possible not only from actual mining operations, but often also from the dusts arising both therein and in the course of transportation. The dangers to the eye in mining and quarrying are particularly pointed out on later pages.

[4] Injury may be caused in chopping, sawing, and other splitting or cutting, not only from splinters and chips, but in certain cases from dusts also.

highly shining surface, as in gilding and in work with mirrors and certain metals. From the intense heat necessary for the making of glass there is special liability to what is known as "glass-workers' cataract." Much danger also lies in the making of steel, and in other processes requiring great heat. In operations in connection with molten or superheated metals, or in connection with the cutting or soldering of metals by heat, in which a very high temperature is required, causing an intense light, the radiations produced may be most damaging.[1]

The eye may suffer from the action upon it of hot substances or of noxious chemical substances. There may be contact with heated materials, which may include splashes from molten metals.[2] By various chemicals, particularly certain acids and alkalis, there is possessed a destructive power on the organs of sight. This may be manifested in either of two ways. First, there may be direct contact with these organs in the entry of particles from powdered matter, or from the spattering of liquids, especially if of a corrosive or similar nature, or in the entry of fumes or gases, especially if of an acrid nature, whereby burns or other injuries are caused. Second, there may be affections of certain parts following the absorption of fumes or gases, or general toxemia. Some of the most harmful alkalis are soda, potash, lye, and ammonia. In many acids there is danger, probably most of all in sulphuric acid and nitric acid. The eye is particularly exposed to risk in work in chemical in-

[1] Most harmful are the ultra-violet rays, and after them the infra-red rays. The chief processes involved are oxy-acetylene cutting, oxy-acetylene welding, arc welding, light and heavy spot welding, and lap welding. In foundries, rolling mills, blast furnaces, and like industrial plants there is danger both from the splashing of molten metal and from the radiations issuing therefrom. In the making of steel there are included open hearth work, Bessemer steel work, and work with blast furnaces, wrought iron furnaces, and electric furnaces. Special danger attends the pouring of steel. It also lies in cupola work, crucible steel work, puddling, and like operations. In babbitting work the eye is similarly exposed to risk. There is also hazard in connection with the oxy-hydrogen flame. In work with electricity a blow-out may be of an extremely dazzling character. Danger is also present in the tending of furnaces or fires generally, including those in engines of different kinds.

[2] There are also embraced the hot sparks from emery wheels, and the scales thrown up from heated metal being hammered.

dustries; in work with lime, a caustic acid being produced from the water mixed with it; [1] in work with lead and its products (including an increased liability to atrophy of the optic nerve); in work with the several alkalis used in the making of soap; in work with arsenic and Paris green, particularly in the making of wall paper and artificial flowers; in work in brass foundries, from sulphur and other fumes; in work with bisulphid of carbon in the manufacture of rubber; in work with nitrobenzol in the preparation of explosives; in work with naphtha in processes employing that substance; in work with certain of the aniline dyes in several lines; and in work with alcohol and tobacco, and with turpentine, quinine, and sundry other drugs.[2] The greatest single hazard is in connection with the employment of wood alcohol in industrial undertakings, this being no less an evil-doer here than elsewhere. Its use covers a wide range, entering into not a few trades. It is resorted to in the preparation of medicines, cheap whiskeys, illuminants, cleaning fluids, perfumes, cosmetics, tinctures, essences, and extracts of various kinds; as a solvent for gums, dyes, and resins, particularly for shellac, in the making of paints, varnishes, hats, etc.; in work with copper; and in other occupations. It is availed of to a greater or less extent in the varnishing of furniture, lead pencils, and other articles; in photo-engraving; in trades where aniline dyes are used, as in the manufacture of artificial flowers and in the coloring of plumes; in celluloid industries; and in the making of formaldehyde, enamels, and artificial leather.[3]

[1] With cement made of lime and similar substances, there is not only danger in its manufacture and in its handling, but also in connection with the demolition of old structures into which it has entered.

[2] Certain poisonous substances likely to affect the eye are phosphorus, dimethyl sulphate, and methyl bromide.

[3] Wood alcohol has been particularly employed in breweries for the coating of the insides of beer vats. On its use in industry, see Bulletin of United States Bureau of Labor Statistics, no. 120, 1913, p. 13 ("Hygiene of the Painter's Trade"); no. 209, 1917, p. 32 ("Hygiene of the Printing Trades'"); Report of New York State Factory Investigating Commission, 1913, ii., pp. 541, 917; 2nd Report, p. 250; 59th Congress, 1st sess., 1906, Report on Hearings before Committee on Ways and Means of House

On farms also there is not infrequently danger to the eye. This may be in the repairing of agricultural tools or machinery; in the chopping of wood; in contact with animals; and from blades of corn, from heads of wheat, and from other growths.

We may now see what is offered in the way of statistics as to accidents to the eye. By reverting to the general table giving the several causes of blindness according to the census returns, we learn that nearly one-fifth (18.3 per cent) of all blindness from accidents and injuries is due to explosives, including those in mines and quarries, those in construction and similar work, and those from bursting shells in military actions; [1] nearly one-eighth (11.8 per cent, to firearms; nearly one-tenth (8.9 per cent), to flying objects (not occurring in explosions); 5.9 per cent, to falls; 5.7 per cent, to cutting and piercing instruments; 4.1 per cent, to burns; 2.2 per cent, to animals; 2.2 per cent, to blows to the head; 2.0 per cent, to explosions not referred to above; 1.6 per cent, to explosions of a nature not indicated; 1.3 per cent, to unfortunate results of operations; 0.8 per cent, in mines and quarries; 0.4 per cent, to machines; and 34.8 per cent, to miscellaneous causes. Of blindness resulting from foreign substances in the eye, about half is due to acids and other substances of chemically destructive nature, and half to dust and other particles. Of that resulting from poisoning, 22.3 per cent is to be ascribed to wood alcohol; 18.5 per cent, to tobacco; 17.6 per cent, to chronic lead poisoning; 11.1 per cent, to alcohol other than wood alcohol; 8.3 per cent, to chronic occupational poisoning other than from lead; and 22.3 per cent, to other forms of poisoning.

Among the several kinds of accidents, some difference is found with regard to the period of life of their most frequent occurrence. Injuries from cutting and piercing in

of Representatives on untaxed denatured alcohol); *Scientific American*, Supp., liii., Feb. 15, 1902; *Journal of American Medical Association*, lxx., 1918, p. 115; *Survey*, xl., 1918, p. 609.

[1] It may be noted that among the foreign born one-fourth of the blindness from accidents is due to explosives.

struments are most common in the early years of childhood, being the leading single cause among accidents from the first to the ninth year, after which time they decrease more or less rapidly. Injuries from falls also happen most often in this period. Injuries from firearms are of greatest frequency in the late years of youth, being the foremost cause from the tenth to the nineteenth year, after which there is a gradual decrease. Injuries from explosives show the largest proportions in youth and early and middle adult life, or during its most active working period, representing from the twentieth to the fifty-fourth year the chief cause of blindness from accidents. Injuries from flying objects and from burns, though fairly constant through life, reach their highest mark towards middle life, those from the former being also the leading cause after the fifty-fifth year. Blindness from exposure to heat, from foreign substances in the eye, and from poisoning are, like injuries from explosives, of greatest occurrence during the working period of life. Blindness from strained eyes increases with advancing years.

In our preceding tabulations [1] we have also had evidence of the enhanced liability to eye injuries in certain occupations. From the more considerable proportion of blind persons who were formerly engaged in mining (including quarrying) over that of persons among the general population now so engaged, the danger in this calling is especially indicated. The industrial hazard to miners is likewise made apparent by the fact that a much larger proportion of them have lost sight before middle life than is the case with the blind as a whole. A similar but smaller danger is shown for machinists, iron and steel workers, and steam railroad employees. In the examination of accidents in relation to different occupations, the industrial risk is further brought out. While among blind males in general accidents are responsible for only about one-fifth of blindness, among miners they cause from over four-fifths to

[1] See pp. 109–117.

nearly two-thirds, and among iron and steel workers, railroad employees, machinists, blacksmiths, masons, agricultural laborers, and general laborers from nearly two-fifths to over one-fifth. The risk is not less manifest in connection with the particular forms of accidents. Burns occasion from over ten times to two times as much blindness among iron and steel workers, blacksmiths, and railroad employees as they do among all classes. Explosives destroy the sight from fifteen times to one and a half times as often among miners, chemical workers, railroad employees, masons, and stone workers. Eye injuries from other explosions are from ten times to four times as numerous among iron and steel workers, coal miners, and machinists; and from explosions of an unknown nature, from fifteen times to two times as numerous among miners, iron and steel workers, machinists, and painters. Flying objects (other than in explosions) do damage from over four times as frequently to slightly more frequently among machinists, coal miners, iron and steel workers, lumber workers, blacksmiths, railroad employees, stone workers, quarry workers, and carpenters. Poisoning affects the sight from over twenty times to nearly two times as commonly among chemical workers, painters, clothing workers, and retail merchants. Acids are from over forty times to two times as dangerous among chemical workers, plasterers, masons, agricultural laborers, and general laborers; and fine particles of matter, from four times to one and a half times as dangerous among masons, quarry workers, iron and steel workers, railroad employees, general laborers, agricultural laborers, and coal miners. Exposure to heat results in blindness from four times to two times as often among blacksmiths, iron and steel workers, stone workers, railroad employees, and masons. Strained eyes are induced from six times to two times as frequently among persons in professional service, shoemakers, and stock raisers. With females, blindness is caused from exposure to heat from seven times as commonly to slightly more commonly among

cooks, servants and waitresses, and laundresses than it is among all classes. Impaired vision from strained eyes results among seamstresses, dressmakers, teachers, and nurses from six times as often as, to slightly more often than, it does among all classes.

Additional information in the way of statistics as to the causes of injuries to the eye is furnished in the reports relating to industrial conditions of certain of the States. These may refer to the general occupations in which such injuries occur, or to the particular means through which the accidents are brought on. In the following tables are presented, according to principal industries, the number and percentage of accidents entailing permanent partial disability and of those entailing the loss of an eye, in Massachusetts for the year ending June 30, 1916; [1] of all accidents and of accidents to the eye, in Minnesota for the years 1909–1914; [2] and of all accidents, of those involving temporary disability to the eye, of those entailing permanent disability, of those entailing the permanent loss of an eye, and of those entailing the permanent impairment of vision, in California from September 1, 1911, to December 31, 1912.[3]

I. Causes of Accidents to the Eye in Massachusetts

	All Accidents		Accidents to Eye	
	Number	*Per cent*	*Number*	*Per cent*
Total	1,353	100.0	108	100.0
Extraction of minerals	11	0.8	5	4.6
Building trades	50	3.7	7	6.5
Chemical and allied industries	21	1.5	7	6.5
Iron and steel and their products	299	22.1	33	30.5
Leather and its finished products	128	9.5	7	6.5
Textile industries	233	17.3	6	5.6
Transportation	99	7.3	14	13.0
Trade	60	4.4	7	6.5
Miscellaneous	452	33.4	23	20.3

[1] Report of Industrial Accident Board.
[2] Report of Department of Labor and Industries.
[3] Report of Industrial Accident Board.

II. Causes of Accidents to the Eye in Minnesota

	All Accidents		Accidents to Eye	
	Number	*Per cent*	*Number*	*Per cent*
Total	39,296	100.0	3,863	100.0
Mining	14,043	35.7	1,226	31.7
Lumber and woodworking	6,878	17.4	344	8.9
Railroad shops	4,515	11.4	1,243	32.3
Foundries and machine shops	2,769	7.1	513	13.2
Miscellaneous	11,091	28.4	537	13.9

III. Causes of Accidents to the Eye in California

	All Accidents		Temporary Eye Disability		Permanent Disability		Loss of One Eye		Permanent Impairment of Vision	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	8,704	100.0	210	100.0	535	100.0	57	100.0	16	100.0
Construction	855	9.8	16	7.6	58	10.9	13	22.9	1	6.3
Lumber and its products	1,062	12.2	18	8.6	128	23.9	8	14.0	3	17.5
Metals and machinery	597	6.8	28	13.3	52	9.7	6	10.5	..	....
Mines	615	7.1	19	9.0	39	7.3	8	14.0	1	6.5
Oil	770	8.9	26	12.4	40	7.5	6	10.5	2	12.3
Power and light	517	5.9	12	5.7	16	3.0	1	1.8	2	12.5
Quarries	117	1.4	4	1.9	7	1.3	1	1.8	2	12.5
Railroads	2,358	27.1	58	27.6	83	15.5	10	17.5	3	17.5
Miscellaneous	1,813	20.8	29	13.9	112	20.9	4	7.0	2	12.5

In these tables are shown in general in what industries occur the greatest proportions of accidents to the eye. More significant is the bringing out, in the contrast of the proportion of such accidents with the proportion of accidents of all kinds, in the several industries, of the particular liability to the eye incurred in each. In Massachusetts it appears that the percentage of eye accidents in the extraction of minerals (though the total number involved here is not great) is practically six times as large as the percentage of all accidents therein, in chemical and allied industries four times, in building trades and transportation two times, and in iron and steel manufactures and trade one and a half times. In Minnesota the proportion of eye injuries is three times as great as the proportion of all injuries in railroad shops, and twice as great in foundries and machine shops.

In California the risks seem on the whole to lie mainly in work with metals and machinery, oil, and power and light, in construction work, and in mines and in quarries.[1]

Next we may consider from what particular means injuries to the eyes are occasioned. In the following table are given, according to the several causes in detail, the number and percentage of all accidents, of accidents involving injury to the eye, of permanent injuries, of permanent injuries to the eye, and of injuries resulting in the loss of an eye, in the State of New York for the year ending September 30, 1912.[2]

CAUSES OF ACCIDENTS TO THE EYE IN NEW YORK

	All Accidents		Accidents to Eye		All Permanent Injuries		Permanent Injuries to Eye		Injuries Involving Loss of Eye	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	72,789	100.0	5,879	100.0	2,368	100.0	118	100.0	89	100.0
Factories	50,704	69.7	5,050	86.0	2,057	86.7	96	81.3	72	80.9
Mechanical power	19,044	26.0	2,321	39.4	1,697	71.7	35	29.7	23	25.8
Transmission of power	2,054	2.8	22	0.4	210	8.9	3	2.6	2	2.2
Belts and pulleys	841	1.2	16	0.3	30	1.3	1	0.8	1	1.1
Other	1,213	1.6	6	0.1	180	7.6	2	1.7	1	1.1
Conveying and hoisting machinery	2,375	3.2	21	0.4	106	4.5	3	2.6	3	3.4
Woodworking machinery	2,023	2.8	28	0.5	369	15.7	1	0.8	1	1.1
Saws	1,249	1.7	16	0.3	233	9.9	1	0.8	1	1.1
Other	774	1.1	12	0.1	136	5.8	...	.....	..	.....
Textile machinery	1,147	1.6	15	0.2	106	4.5	2	1.7	1	1.1
Metal working machinery	5,337	7.3	739	12.6	623	26.1	19	16.1	13	14.7
Stamping machinery	1,499	2.0	24	0.4	418	17.6	6	5.1	6	6.8
Drilling and milling machinery	1,195	1.6	311	5.3	41	1.7	1	0.8	1	1.1
Lathes	601	0.9	134	2.3	17	0.7	2	1.7	2	2.2
Power tools, chippers, etc	360	0.5	150	2.6	15	0.6	8	6.8	2	2.2
Other	1,682	2.3	120	2.0	132	5.5	2	1.7	2	2.2
Polishing machines	2,410	3.3	1,410	23.9	33	1.4	2	1.7	2	2.2
From fragments	1,089	1.5	1,032	17.5	19	0.8	2	1.7	2	2.2
Other	1,321	1.8	378	6.4	14	0.6	...	.....	..	.....
Other machinery	3,698	5.0	86	1.5	250	10.6	5	4.2	1	1.1

[1] During 1916, of 8,008 accidents occurring to passengers on railroads, 36, or 0.4 per cent, were to the eye; of 48,310 to employees, 1,701, or 3.6 per cent (10 involving the loss of an eye); and of 10,664 to other persons, 8, or 0.1 per cent (2 involving the loss of an eye). Inter-State Commerce Commission, Accident Bulletin no. 62, 1917. Of accidents to locomotive engineers in New Jersey from 1888 to 1907, 2.0 per cent were to the eye; to railroad machinists, 5.5 per cent; and to car repairers, 7.5 per cent. United States Bulletin of Labor, no. 84, Sept., 1908, p. 208. In Montana four-fifths of accidents to the eye occur in mines, quarries, and smelters.

[2] New York State Department of Labor, Bulletin, no. 68, Dec., 1914. There are also given the number of general injuries for the year ending September 30, 1913.

CAUSES OF ACCIDENTS TO THE EYE IN NEW YORK—*Continued*

	All Accidents		Accidents to Eye		All Permanent Injuries		Permanent Injuries to Eye		Injuries Involving Loss of Eye	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Heat and electricity	4,008	5.5	651	11.2	27	1.1	13	11.0	8	9.0
Explosion and ignition of gases, dust, etc	344	0.5	17	0.3	9	0.4	3	2.6	2	2.2
Steam and hot liquids	656	0.9	29	0.5	1	...	1	0.8	1	1.1
Caustics	430	0.6	222	3.8	2	0.1	1	0.8	1	1.1
Explosion of molten metals	115	0.1	35	0.6	2	0.1	1	0.8	1	1.1
Other accidents from molten metal	724	1.0	126	2.2	1	...	1	0.8	1	1.1
Electricity	414	0.6	65	1.1	2	0.1	...	.....	..	.....
Other	1,325	1.8	157	2.7	10	0.4	6	5.1	2	2.2
Fall of person	4,325	6.0	19	0.3	33	1.4	...	.....	..	.....
Weights and falling objects	10,158	14.0	26	0.5	182	7.6	1	0.8	1	1.1
Miscellaneous	13,169	18.2	2,033	34.6	118	4.9	47	39.8	40	44.9
Hand tools	3,649	5.0	305	5.3	46	1.9	17	14.4	16	18.0
Tools in hands of other workmen	608	0.9	56	0.9	11	0.5	6	5.1	6	6.8
Striking against projecting parts	1,915	2.7	18	0.3	4	0.2	1	0.8	1	1.1
Flying objects not from machines, tools, or explosions	2,196	3.0	1,621	27.5	24	1.0	22	18.7	17	19.0
Other	4,801	6.6	33	0.6	33	1.3	1	0.8	..	.....
Mines and quarries	736	1.0	48	0.8	18	0.9	2	1.7	2	2.2
Hand tools	72	0.1	23	0.4	...	.....	...	.....	..	.....
Other	664	0.9	25	0.4	...	.....	...	.....	..	.....
Building and engineering	21,349	29.3	781	13.2	293	12.4	20	17.0	15	17.0
Mechanical power	3,298	4.5	109	1.8	105	4.5	3	2.6	1	1.1
Drills, hammers, etc	325	0.4	39	0.7	7	0.3	...	.....	..	.....
Grindstones, etc	26	....	12	0.1	1	.....	...	.....	..	.....
Compressed air hose	98	0.1	26	0.5	...	.....	...	.....	..	.....
Other	2,849	4.0	32	0.5	98	4.1	3	2.6	1	1.1
Heat and electricity	979	1.3	113	1.9	19	0.9	5	4.2	5	5.5
Blasts	158	0.2	8	0.1	9	0.4	4	3.4	4	4.4
Caustics (lime)	106	0.1	48	0.8	...	.....	...	.....	..	.....
Molten metal	36	....	13	0.1	...	.....	...	.....	..	.....
Electricity	287	0.3	29	0.5	6	0.3	...	.....	..	.....
Other	492	0.7	15	0.4	4	0.2	1	0.8	1	1.1
Weights and falling objects	7,503	10.3	23	0.4	97	4.1	...	.....	..	.....
Miscellaneous	9,569	13.2	536	9.1	72	2.9	12	10.2	9	10.1
Hand tools	2,148	3.0	291	5.1	24	1.0	10	8.6	7	7.9
Flying objects not from machines, tools, or explosions	327	0.4	220	3.6	1	.....	1	0.8	1	1.1
Other	7,094	9.8	25	0.4	47	1.9	1	0.8	1	1.1

Here there is found a somewhat disproportionate number of eye accidents, as compared with accidents of all kinds, in factories, especially in the use of mechanical power, though apparently not many of these eye accidents have serious consequences. The hazard to the eye is evident in work with metal working machinery, particularly in drilling and milling operations. In work with lathes the danger is

marked, the proportion of eye accidents being more than double the proportion of all accidents; and the effects are often of a permanent character. Even greater peril is manifest in the employment of power tools, the proportion of eye accidents being five times the normal, and that in respect to serious ones much greater still. The risk is perhaps most pronounced in work with polishing machines, especially from fragments thrown off, though the injuries involved are not frequently of a lasting character. In contact with heat and electricity the proportion of eye injuries is twice that of injuries of all kinds, while the proportion in respect to serious injuries to the eye is considerably greater still. Injuries from explosions are particularly likely to be of a severe nature. With caustics the percentage of eye injuries is six times above the normal rate, though most appear to be but temporary. The liability of eye accidents from molten metal is also noticeable. Accidents from hand tools do not exhibit any particular tendency in respect to the eye, but when they do affect it the consequences are often permanent. In flying objects of various kinds the greatest danger of all to the sight seems to exist. From them the proportion of eye injuries is nine times the proportion of injuries of all kinds, and the difference with respect to injuries of permanent nature is double this. In building and engineering operations, permanent injuries to the eye from heat and electricity show a proportion over four times greater than that for permanent injuries of all kinds, injuries from blasts being the most disastrous. Danger from hand tools in these operations is also considerable, the percentage of serious eye injuries being eight times that for all serious injuries. Accidents to the eye from flying objects likewise deserve attention.

In the following table are presented the main causes of accidents resulting in permanent disability and of those resulting in the loss of an eye in the State of Ohio from January 1, 1914, to June 30, 1915.[1]

[1] Bulletin of Industrial Commission, iii., 1916, 1, March, pp. 32, 194.

CAUSES OF ACCIDENTS TO THE EYE IN OHIO

	All Permanent Disabilities		Loss of Eye	
	Number	*Per cent*	*Number*	*Per cent*
Total	2,417	100.0	380	100.0
Machines	1,484	61.4	118	31.1
Boring, drilling, and reaming machines	50	2.1	10	2.6
Drive belts and pulleys	31	1.3	3	0.8
Cranes and derricks	88	3.7	4	1.2
Grinding and polishing wheels	50	2.1	24	6.3
Lathes	24	1.0	11	2.8
Planers, sharpers, slotters, and facers	91	3.8	3	0.8
Power hammers, steam and electric riveters, etc	48	2.0	13	2.4
Power presses	83	3.4	6	1.6
Stamping, shearing, and punching machines	308	12.7	22	5.6
Saws (power)	169	6.9	3	0.8
Other machines	542	22.4	19	5.0
Nature of material	87	3.6	45	11.8
Objects	392	16.2	62	16.3
Falls	85	3.5	4	1.2
Hand tools and simple apparatus	225	9.3	144	37.8
Miscellaneous	144	6.0	7	1.8

The most important factor, from this table, in occasioning the loss of an eye is hand tools and simple apparatus, the proportion of eye accidents from them being four times the proportion for all accidents due thereto. The next source of danger is from grinding and polishing wheels, from lathes, and from the nature of material, each showing a proportion for eye accidents about three times that for accidents in general.

In the next table appear the principal causes of accidents in general and of accidents to the eye, as found in Pennsylvania for the year 1913.[1] According to the figures here, the most frequent cause of injuries occurring to the eye in relation to all injuries is emery wheels, with a proportion seven times as great in the one case as in the other. Next come in order chips from flying materials, with a proportion

[1] Report of Department of Labor and Industries. It may be noted that while the proportion of accidents in general in metal and metal products industries is 69.5 per cent, the proportion of accidents to the eye therein is 78.7 per cent.

CAUSES OF ACCIDENTS TO THE EYE IN PENNSYLVANIA

	ALL ACCIDENTS		ACCIDENTS TO EYE	
	Number	*Per cent*	*Number*	*Per cent*
Total	12,752	100.0	874	100.0
Burns—hot metal, flue dust, or flames	624	4.8	126	14.4
Burns—other kinds	314	2.4	48	5.4
Chips—from tools	27	0.2	8	0.9
Chips—from flying material	654	5.1	285	32.5
Emery wheels	129	1.0	60	7.0
Explosions	106	0.8	10	1.2
Tools flying up	823	6.4	33	3.8
Miscellaneous	10,115	79.3	304	34.8

over six times as great; chips from tools, with a proportion over four times as great; burns from hot metal, flue dust, or flames, with a proportion three times as great; burns of other kinds, with a proportion over twice as great; and explosions, with a proportion somewhat greater.

The chief causes of slight accidents and of serious accidents, and of such accidents to the eye, as found in Indiana in 1913, are as follows:[1]

CAUSES OF ACCIDENTS TO THE EYE IN INDIANA

	ALL SLIGHT ACCIDENTS		SLIGHT ACCIDENTS TO EYE		ALL SERIOUS ACCIDENTS		SERIOUS ACCIDENTS TO EYE	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	3,296	100.0	549	100.0	941	100.0	16	100.0
Conveying and hoisting machinery	82	2.5	2	0.4	81	8.7	..	.....
Woodworking machinery	234	7.1	4	0.7	130	13.7	..	.....
Metal working machinery	194	6.0	9	1.5	98	10.4	..	.....
Wire working machinery	27	0.9	5	0.9	4	0.4	..	.....
Stone working machinery	16	0.5	1	0.2	7	0.7	..	.....
Polishing machinery	183	5.6	136	24.8	15	1.7	..	.....
Heat and electricity	176	5.3	21	3.8	64	6.8	1	6.2
Weights	762	23.1	2	0.4	209	22.2	1	6.2
Flying objects	514	15.7	355	64.7	44	4.7	12	75.0
Miscellaneous	1,108	33.3	14	2.6	289	30.7	2	12.5

[1] Report of Board of Inspection.

The striking results of this table are in the high proportion of eye injuries from polishing machinery, which is nearly five times the proportion for all injuries so caused; and from flying objects, which is four times that for all injuries so caused, with the difference in serious injuries much greater. As in the case in New York, the consequences to the sight appear likely to be severe from injuries of the latter kind, but not from those of the former.

The relative seriousness of injuries to the eye from the several causes may further be indicated statistically. In the following tables are shown the causes of all injuries to the eye in Massachusetts from July 1, 1912, to June 30, 1915, and of injuries to the eye involving at least one day's absence from work and of those involving the loss of an eye in 1912;[1] of all eye injuries, of temporary eye injuries, of injuries involving the loss of an eye, and of injuries entailing impaired sight, in Wisconsin from September 1, 1911, to December 31, 1912;[2] and of all eye injuries, of injuries to one eye, of injuries involving the loss of one eye, of injuries to both eyes, and of injuries involving the loss of both eyes, to Federal employees from 1908 to 1913.[3]

[1] Report of Industrial Accident Board, 1915, p. cli.; Report no. 13, Safety Handbook of Massachusetts Employees' Association, 1912; D. S. Beyer, "Industrial Accident Prevention," 1916, p. 371.

[2] Bulletin of Wisconsin Industrial Commission, 1913, ii., no. 7, p. 171; Bulletin of United States Bureau of Labor Statistics, no. 157, 1915, p. 96.

[3] *Ibid.*, Sept., 1914, no. 155.

I. Causes of Accidents to the Eye in Massachusetts

	All Eye Injuries		Eye Injuries (One Day from Work)		Loss of Eye	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	17,522	100.0	593	100.0	30	100.0
Belting	45	0.3	5	0.9	..	.....
Electric flash	205	1.2	27	4.5	..	.....
Emery wheels	5,241	30.0	56	9.4	2	6.7
Flying particles from hand tools	2,253	12.4	.....	.....	..	.....
Machine tools	1,100	6.4	16	2.7	..	.....
Hammering—pieces of hammer, chisel, chips, etc	.....	.....	68	11.5	15	50.0
Hammering—flying tools or material	.....	.....	33	5.6	5	16.7
Riveting	.....	.....	16	2.7	3	10.0
Lubricator and gauge glasses	31	0.2	7	1.2	1	3.3
Molten metal	493	2.9	47	7.9	4	13.3
Miscellaneous	7,279	41.6	318	53.6	..	.....

II. Causes of Accidents to the Eye in Wisconsin

	All Eye Injuries		Temporary Eye Injuries		Loss of Eye		Impaired Sight	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	366	100.0	335	100.0	24	100.0	7	100.0
Acids	5	1.4	5	1.5	.....	.....	.....	.....
Belts	3	0.8	2	0.6	1	4.1	.....	.....
Chipping	122	33.3	107	31.9	11	45.9	4	59.1
Electricity	6	1.6	6	1.8	.....	.....	.....	.....
Emery wheels	50	13.7	50	15.0	.....	.....	.....	.....
Explosions	10	2.8	10	3.0	.....	.....	.....	.....
Flying nails	15	4.1	11	3.3	4	16.7	.....	.....
Machine chips	49	13.4	44	13.1	4	16.7	1	14.3
Molten metal	41	11.2	41	12.2	.....	.....	.....	.....
Power drills	9	2.4	9	2.7	.....	.....	.....	.....
Riveting	9	2.4	8	2.4	1	4.1	.....	.....
Miscellaneous	47	12.9	42	12.1	3	12.5	2	28.6

III. Causes of Accidents to the Eye among Federal Employees

	All Eye Injuries		Injuries to One Eye		Loss of One Eye		Injuries to Both Eyes		Loss of Both Eyes	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Total	2,301	100.0	2,121	100.0	59	100.0	180	100.0	3	100.0
Explosions of dynamite, powder, etc	34	1.5	22	1.0	8	13.5	12	6.7	2	66.7
Inflammable, poisonous, hot, or corrosive materials, gases, and vapors	172	7.4	138	6.5	2	3.4	34	18.9	.....	.....
Flying bodies, splinters, etc.	1,727	75.1	1,631	76.9	37	62 7	96	53.3	1	33.3
Hand tools and simple instruments	125	5.4	124	5.8	6	10.2	1	0.5	.....	.....
Miscellaneous	243	10.6	206	9.8	6	10.2	37	20.6	.....	.....

In these tables there is corroborative evidence of what has already been found, namely, the very great liability of harm of lasting character to the eye from the flying up of small objects, broken or chipped from tools or materials. The proportion of accidents due to them resulting in the loss of one or both eyes is usually several times the proportion for all eye accidents. In Wisconsin over four-fifths, and in Massachusetts over three-fourths, of the cases of the loss of an eye are to be ascribed to this cause. In Massachusetts a similar hazard is observed with respect to molten metals, and in Wisconsin with respect to belting. The most serious consequences seem to arise from explosions, as indicated among Federal employees, though the number of eye injuries from them is not on the whole large. The proportion of cases of the loss of an eye therefrom is nine times that for all eye accidents, with a still greater difference as regards the loss of both eyes. In Wisconsin, on the other hand, there are manifested from explosions much less disastrous effects. According to these tables also, the danger of permanent injury to the eye from fine particles, as from emery wheels and the like, and from hot or noxious substances is apparently not a relatively large one.

The manner in which injury to the eye is suffered may likewise be indicated from the statistics for the latest year available, of several of the States. The causes of the loss

of an eye in West Virginia are distributed in percentages as follows: burns, 1.8; enucleation, 26.6; foreign substances, 11.0; ulceration, 7.3; wound contused, 10.1; wound infected, 4.6; wound lacerated, 19.3; and wound punctured, 19.3. The several percentages for all eye accidents in Washington are: bruises, 24.9; cuts, 12.5; punctures, 4.5; scalds and burns, 10.2; infections, 5.9; foreign substances, 32.6; loss of vision, 6.6; and enucleation, 2.9. The percentages in Montana are: bruises, 24.4; cuts, 24.4; punctures, 2.7; scalds and burns, 12.4; infection, 23.5; and miscellaneous, 12.6. In Pennsylvania 67.3 per cent of eye injuries are attributed to cuts and lacerations, 30.8 per cent to burns and scalds, and 2.9 per cent to other causes. In Indiana of the specified causes of injuries to the eye, 31.5 per cent are due to cuts and lacerations, 12.1 per cent to contusions and bruises, and 56.4 per cent to burns and scalds. In Ohio of cases involving the loss or permanent impairment of sight in one eye, 17.9 per cent are ascribed to infections.[1] Among Federal employees infections ensue in 10.0 per cent of all eye injuries. In Washington 14.0 per cent of the infections in the eye are from bruises, 9.3 per cent from cuts, and 76.7 per cent from foreign substances.[2]

Finally, we may attempt to discover the number of in-

[1] In this State a considerable proportion of temporary injuries to the eye are laid to burns, cauterizations, scalds, etc., and a somewhat larger one to bruises, abrasions, lacerations, punctures, etc., with a very slight amount (1.0 per cent) to photophobia, or extreme sensitiveness to the light. In New York City in 1912 there were 12 cases of blindness from wood alcohol; in 1913, 5; and in 1917, 3. Publications of Committee for the Prevention of Blindness, 1913, no. 11; Report, 1915, p. 15; 1917, p. 17.

[2] On causes of accidents to the eye, see also National Committee for the Prevention of Blindness, Publications, 1917, no. 12, "Eye Hazards in Industrial Occupations" (G. L. Berry), p. 12; Bulletin of United States Bureau of Labor Statistics, 1914, no. 155; 1915, no. 157, pp. 52, 164, 186; 1917, no. 216, p. 108; Bulletin of Bureau of Labor, no. 78, Sept., 1908, p. 420; Report of Illinois Bureau of Labor Statistics, 1912, 1913; Report of Minnesota Bureau of Labor, Industries, and Commerce, 1910, p. 127; Report of Michigan Employers' Liability and Workmen's Compensation Commission, 1911, p. 79; Report of Massachusetts Commission on Compensation for Industrial Accidents, 1912, p. 141; Report of Illinois Employers' Liability Commission, 1910, p. 245; Report of Wisconsin Special Committee on Industrial Insurance, 1910, p. 87; Report of Massachusetts Commission on Compensation for Industrial Accidents, 1912, p. 107; Report of Massachusetts Commission for the Blind, 1912, p. 59.

juries to the eye occurring in industry in the United States each year. In the following table are presented, so far as statistics are available, the total number of accidents of all kinds, the number of accidents to the eye, the number of accidents involving permanent partial disability, and the number involving the loss or permanent impairment of vision in one eye—with the percentage of eye accidents to all accidents, of the loss or impairment of sight in one eye to all accidents, of such loss or impairment to all permanent disabilities, and of such loss or impairment to all eye accidents—as found in the most recent year in the States of California, Illinois, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Vermont, Washington, West Virginia, and Wisconsin, and for employees of the United States.[1]

[1] From Report of Industrial Accident Board of California for year ending June 30, 1917; of Maryland for year ending Oct. 31, 1917; of Nevada for three years ending June 30, 1916 (average for one year); of Industrial Accident Board of Massachusetts for year ending June 30, 1916; of Michigan for year 1916; of Montana for year ending June 30, 1917; of Vermont for year ending June 30, 1916; of Industrial Commission of Oklahoma for year ending Aug. 31, 1916; of Workmen's Compensation Industrial Commission of Wisconsin for year ending June 30, 1917; of Compensation Commissioner of West Virginia for year ending June 30, 1917; of Industrial Insurance Department of Washington for year ending Sept. 30, 1917; of Industrial Board of Illinois for year ending June 30, 1916; of Department of Labor and Industries of Minnesota for year ending June 30, 1916; of Pennsylvania for year 1916; of Bureau of Industrial Statistics of New Jersey for year ending June 30, 1916 (not including railroads); of Department of Workshop and Factory Inspection of Tennessee for year ending Nov. 30, 1917; of United States Compensation Commission for Federal Employees from Sept. 1, 1916, to June 30, 1917; and from Bulletin of Industrial Commission of Ohio for year ending June 30, 1915 (iv., 1917, 3, Sept.); and of Department of Labor of New York for year ending Sept. 30, 1912 (no. 68, Dec., 1914).

NUMBER OF EYE INJURIES IN DIFFERENT STATES

	California	Illinois	Maryland	Massachusetts	Michigan	Minnesota	Montana	Nevada	New Jersey	New York	Ohio	Oklahoma	Pennsylvania	Tennessee	Vermont	Washington	West Virginia	Wisconsin	United States Employees
All accidents	92,513	16,869	37,434	67,700	19,063	5,040	9,664	810	....	72,789	73,525	9,058	255,616	1,465	1,808	17,805	22,632	17,157	6,760
All accidents to eye	11,210	542	3,384	3,562	.....	149	541	44	....	5,879	8,350	885	20,665	144	164	751	.....	.....	297
Accidents involving permanent partial disability	1,709	.....	398	1,353	1,713	485	184	22	1,627	2,368	1,643	....	2,670	....	....	1,927	435	772	....
Accidents involving loss or permanent impairment of vision in one eye	202	55	37	108	91	69	22	4	31	89	255	14	366	....	....	132	109	53	14
Per cent of eye accidents to all accidents	12.1	3.2	9.0	5.2	.....	3.0	5.6	5.4	....	7.9	11.3	9.7	8.0	5.5	9.7	4.3	.....	.....	4.4
Per cent of loss of eye to all accidents	2.2	0.3	0.1	0.2	0.5	1.4	0.2	0.5	....	0.1	0.3	0.2	0.1	....	....	0.8	0.5	0.3	0.2
Per cent of loss of eye to partial disabilities	11.7	.....	8.1	7.9	5.3	14.9	12.0	18.1	1.9	3.7	15.5	....	.....	....	....	7.0	25.0	6.9	....
Per cent of loss of eye to all eye accidents	1.8	10.1	1.1	3.0	.....	46.3	4.1	9.1	....	1.3	3.0	1.4	1.4	....	....	17.6	.....	....	4.5

The feature most in evidence in the foregoing table consists in the diversified methods employed in the United States for the reporting of accidents. The great differences found among the States in the numbers recorded are in part due to the more extensive efforts in some than in others to set down all injuries, but in greater part to the different conceptions as to what are to be regarded as "accidents," much depending on the length of the absence from work entailed, whether of one or more days, or of one or more weeks. For these reasons the figures given in the foregoing table are not to be taken as meaning that in States reporting many eye injuries the conditions are in reality worse than the conditions in States reporting fewer. In the number of cases of the loss or serious impairment of vision of an eye, however, the figures presented are likely to be much more indicative of the true situation. Such injuries are of a definite nature, and are recognizable without difficulty.

To determine the general proportion of eye injuries to all injuries, and the relative severity of the former, we may strike an average for the States taken together. The proportion of all injuries resulting in injuries to the eye is thus about one in fifteen, or 7.1 per cent. Similarly the proportion of all injuries resulting in the loss or serious impairment of sight in one eye is about one in two hundred, or 0.5 per cent. Approximately one-tenth (10.6 per cent) of all permanently disabling accidents involve the eye. Of accidents to the eye one in twenty, or 4.9 per cent, results in its loss or permanent impairment.[1]

As we have intimated, the total number of injuries to the eye may not be known. But if we take the figures for the State showing the most liberal reporting of accidents, which is Pennsylvania, and regard the number of accidents reported in it as a basis for the United States—considering the total number of employees in this State in relation to the total number of employees in the entire country—we

[1] The proportion for Minnesota in this case is, because of its exceptional character, omitted.

have something like 250,000 accidents to the eye of all kinds occurring in industry in the United States each year. If we take as a basis a State reporting on a less extensive scale, as New York, which includes only such accidents as involve interruption of work or medical attendance, we have somewhat over 50,000 as the total number in the country. If, again, we assume, as is sometimes done, that there are 700,000 non-fatal accidents of more than four weeks' duration in the United States annually, the number of accidents to the eye, constituting 7.0 per cent of all, amounts to some 49,000.[1] Much the larger portion of all these ocular injuries are without serious consequences.[2]

Next, we may seek to discover the total number of accidents which involve the loss or serious impairment of the sight in one eye.[3] The number for all the States so reporting

[1] See Bulletin of United States Bureau of Labor Statistics, 1915, no. 157, p. 6. The number of injuries in industry in the United States is variously estimated at from 500,000 to 2,000,000, or even more. See *ibid.*, 1917, no. 212, p. 360; Bulletin of Bureau of Labor, no. 78, Sept., 1908; *Monthly Review*, vi., 1918, 4, April, p. 295; H. R. Seager, "Social Insurance," 1910, p. 28; Publications of American Statistical Association, iv. (n. s.), 1895, p. 303; xi., 1909, p. 57.

[2] Of eye injuries, not involving the loss of an eye, to Federal employees in 1912–1913, 70.6 per cent were regarded as disabling for less than one week, and of injuries to both eyes, not involving loss of sight, 79.6 per cent were so regarded. Of 1,498 eye accidents reported in machine building plants from 1907 to 1913, the average number of days lost from work was 5.8. Bulletin of United States Bureau of Labor Statistics, 1917, no. 216, p. 55. In the iron and steel industry the rate of accident frequency (number of accidents per 1,000 300-day workers), from 1905 to 1914, in respect to injuries to the eye is found to be 17.8—being 38.8 in fabricating departments, 32.5 in foundries, 27.9 in mechanical departments, 27.6 in Bessemer steel, and 22.1 in tube mills. The accident severity rate (number of days lost per 300-day worker) is 0.7—being 1.15 in blast furnaces, 1.13 in Bessemer steel, 0.97 in mechanical departments, 0.92 in fabricating departments, and 0.89 in open hearths. In machine building the accident frequency rate is 8.3, and the accident severity rate 0.4. In the iron and steel industry from 1910 to 1914, the accident frequency rate in respect to the loss of one eye is 0.37—being 0.75 in Bessemer steel, 0.48 in mechanical departments, 0.45 in foundries, and 0.43 in fabricating departments. The accident frequency rate in respect to the loss of both eyes is 0.01—being 0.06 in Bessemer steel. The accident severity rate for the loss of one eye is 0.421, and for the loss of both eyes 0.08. The accident frequency rate from 1913 to 1915 in the striking of the eye by flying objects is 6.6—being 16.6 in the manufacture of fabricated products, and 6.9 (or 8.1 for a different group) in the manufacture of miscellaneous steel products. *Ibid.*, no. 234, 1918, pp. 179, 180, 197, 199, 260, 262, 270, 274, 276.

[3] In California of 202 cases, 49.5 per cent were the loss of an eye, 49.5 per cent the permanent impairment of one, and 4.5 per cent greater or less impairment of both. In Ohio of 379 cases, 57.3 per cent involved the total loss of sight in an eye, 12.9 per cent over one-half, 15.5 per cent one-half, and 14.3 per cent under

in the table is 1,651. As these States contain slightly more than half of the industrial workers of the country, we may believe that there are not less than 3,100 such injuries annually in the United States. Though of course this injury does not constitute full blindness, yet such is rendered more imminent than it would otherwise be, through any possible infection to the remaining eye, or from any subsequent harm to it.

Lastly, we may make inquiry as to the number of cases of actual or practical blindness in both eyes (not represented in the table). From an examination, over a period of years, of accident or other statistics of the States giving such information, it appears that this varies in different ones from none at all to nine or ten a year, in most rarely exceeding two or three. The heaviest proportions seem to be found in distinctly mining States—indicating once more the particular hazard to the sight in that occupation. All told, there are probably not less than one hundred cases of total blindness occurring annually in industry in the United States.

Possible Measures for the Prevention of Accidents and Injuries to the Eye

How much of the blindness resulting from accidents and injuries is preventable, we do not know; but that a very considerable part is so we need not doubt. For that portion which is due to thoughtlessness or recklessness on the part of the victim or his associates—including general negligence or the willingness to take chances on the part of workmen in their tasks—the remedy lies chiefly in the inculcation of lessons of heed and caution, with extensive educational campaigns as to the care of the eye, and as to its use and

one half. Of 6 cases of permanent total disability to the sight, 33.3 per cent involved the loss of four-fifths in both eyes, 16.6 per cent the total loss of that in one and one third of that in the other, 33.3 per cent less than one half in both, and 16.6 per cent nine tenths in one and one fifth in the other. On the extent of the injury to the eye in accidents, see *Monthly Labor Review*, vii., 1918, 4, Oct., p. 62.

its misuse. For that portion to be set down to conditions for which the individual is not directly responsible, it is incumbent upon society at large to take whatever protective measures may be necessary.

The procedure to be adopted to ensure the safety of the sight is rarely of an onerous nature, being little more than simple provision for its well-being and protection. In all places where the eyes are used there should be adequate and properly directed and properly diffused lighting. In buildings, whether used for business or for residence, and especially in school buildings, full attention should be given to the entry of natural light, and to the kind and the degree of artificial illumination, both involving the adoption of correct shading, reflecting, diffusing, and similar arrangements.[1] In school buildings it must also be seen that there are supplied suitably printed books, that blackboards are rightly placed, and that shiny surfaces are eliminated as far as possible. The eyes of school children, furthermore, should be periodically examined, with the proper treatment of cases of imperfect vision.[2] The last named matter is one, indeed, that should apply to all children, and to adult persons as well. In all situations where the eye is exposed to wind or dust, or to other danger, goggles should be worn.

In industrial establishments certain special devices should be installed for the protection of the sight. In operations producing dusts or other fine abrasive and irritating particles, as with emery wheels, grindstones, metal working machinery, and the like, hoods or other screens or shields should be provided; while to carry off such matter, there should be installed suitable exhaust systems, including

[1] Without entering into specifications, it may be said here that the main essential is the securing of ample and steady light; that this should come from back of one, and that there should be no glare in the eyes; that light-colored walls, which absorb less light than do others, are to be preferred; and that in reading, unglazed paper is desirable.

[2] On the need of school clinics, see *Teachers College Record*, vi., 1905, March, p. 30; L. P. Ayres and May Ayres, Cleveland Educational Survey, "Health Work in Public Schools," 1915, p. 30; *Modern Hospital*, ix., 1917, p. 171.

blowers, fans, ventilators, forced draft pipes, suction pipes, etc.[1] In such processes, and in those involving the chipping or driving of metal, the hewing of minerals, and the handling of molten metal, goggles should be required to be worn.[2] These should be of tough glass, with side screens of wire, leather, rubber, or other substance, to afford protection from all directions, and with removable lenses for replacement when shattered. In certain of these operations, and in spraying and similar operations, in which fine particles may be hurled or blown about, there should be used helmets of steel or cloth, with a glass and wire screen opening for the eyes, or face masks of fine wire netting. In some such operations, furthermore, there should be installed proper exhaust systems.[3] In operations involving chipping on an extensive scale, especially in steel mills, there should, for the protection of the sight of workers in general and of other persons, be set up screens of canvas, burlap, wire, or other substance.[4] To guard against flying glass and steam from the breaking of water or lubricator gauges, there should be affixed substantial guards of metal or heavy glass, to be pushed aside when necessary, while the gauges should themselves be of strong glass. All hammers and other tools, furthermore, should be periodically examined, and those found to be "burred" or otherwise defective should be repaired or discarded. For machinery or appliances involving the use of gearing, belts, lacing, hooks, or other parts liable to cause damage to the eye, protection should be afforded in the introduction of general safety measures. The same is true with respect to the use of explosives.

In the presence of great heat or of intense light, including in some cases a highly shining surface, suitably colored

[1] Emery wheels or other fast revolving wheels should also be provided with powerful steel hoods to guard against the possible breaking of a wheel. For some of them, especially grindstones, a system of flanges is needed.

[2] In chipping a further valuable aid is a screen-like guard attached to a glove.

[3] In sand-blasting operations with small articles, a special sand-box chamber, into which only the arm is thrust, may be employed.

[4] Such are especially necessary in the chipping of castings. In connection with blooming mill stands, wire glass shields are desirable.

glasses should be worn; and sometimes helmets of fibre or equivalent material, or face shields, with an opening in front for lenses, should be employed.[1] In work with chemicals, drugs, or other substances of harmful effect upon the eyes, not a few precautions are called for. Full ventilation must at all times be assured, with suitable exhaust or draft systems; while hoods or other guards are to be employed where necessary. Containers and carriers are to be properly handled. Here also the employment of goggles is to be insisted upon, fitted with rubber or leather sides. In some processes helmets are to be worn. About the use of wood alcohol are to be placed additional regulations. When sold it should be duly labelled, with the word "poison" in clear and unmistakable type, while all trade names which are likely to confuse it with grain alcohol should be forbidden. Perhaps as an adulterant it should be prohibited altogether, except where absolutely necessary, which also might be the fate of the entire deodorized article.[2]

Finally, all industrial establishments should be provided with first aid equipment for eye injuries, both for the removal of foreign bodies and for the treatment of cases requiring it.

Present Extent of Measures for the Protection of the Sight

Systematic efforts for the protection of the sight from accidents are a part of the general movement in America for the prevention of blindness, to be later considered. In the initiation of positive measures, a beginning has been made in the voluntary installation of safeguards on the part of certain industrial concerns. Perhaps the most

[1] For excessive heat or glare, chain screen doors are to be recommended. Electric flashes may be guarded against by enclosed switches or fuse boxes.

[2] Injury from wood alcohol should also be made reportable, so as to make it possible to discover the source of its sale or distribution. At the same time the use of the "denatured" grain alcohol if not made dangerous by the admixture of wood alcohol (which should not be over a few per cent), should be encouraged, which is as inexpensive, is non-poisonous, and can answer as well for practically all industrial purposes.

important work has been done by some of the large steel corporations, in a number of which the results have been notable.[1] In a few establishments, furthermore, examination of the eyes of the workers is made from time to time.[2]

The concern of the state as directly expressed in legislation for the protection of the sight may be said at present to be manifested chiefly in three forms: (1) legislation for the protection of the sight of school children; (2) legislation as to the use of a dangerous drug like wood alcohol; and (3) legislation requiring safeguards for industrial workers, in which are included safeguards for the eyes.[3]

[1] Entitled to especial mention are the efforts of the United States Steel Corporation and its subsidiary companies. In this corporation the proportion of eye accidents has within a few years been reduced one-half. Proceedings of American Association of Instructors of the Blind, 1915, p. 50; Report of Committee for the Prevention of Blindness, 1911, p. 10; 1915, p. 18. See also *Survey*, xxv., 1911, p. 848. In the American Steel Foundries the proportion has been reduced 85 per cent. *Journal of American Medical Association*, lii., 1909, p. 876; lx., 1913, p. 2004; American Encyclopedia of Ophthalmology, 1916, ii., p. 1161; *Ophthalmology*, xii., 1916, p. 61. In the McCormick Works in Chicago eye injuries have been reduced from 50 to 4 a month. American Encyclopedia of Ophthalmology, *loc. cit.* Of 34,000 employees of the Carnegie Steel Company in 1911, only 1.4 per cent had eye injuries, and but one had an eye lost. *Pennsylvania Medical Journal*, xv., 1912, p. 366. In the American Locomotive Company of New York the average number of employees requiring medical treatment for eye injuries from 1910 to 1913 was 448, with the loss of an eye in 10.5 per cent; but in 1915, after the introduction of goggles, the number was 52, with the loss of an eye in 0.2 per cent. National Committee for the Prevention of Blindness, Publications no. 12, *loc. cit.*, p. 113. In the American Steel Foundries there were 287 pairs of goggles broken in service in six months, while in 27 months only 3 eyes were lost. D. S. Beyer, *op. cit.*, p. 373. Of 5,575 eye injuries occurring with the General Electric Company from 1906 to 1916, such care was taken that only 171 had to be reported to an eye specialist, and but one eye was lost. American Museum of Safety, Bulletin, Dec., 1917. Following the introduction of safety organization in a large steel plant, the accident frequency rate from flying objects striking the eye was reduced in wire mills from 19.4 to 9.4; in mechanical departments, from 13.0 to 6.5; in fabricated products, from 13.2 to 5.9; and in yards, from 10.4 to 4.4. United States Bureau of Labor Statistics, no. 234, 1918, p. 264 ("Safety Movement in Iron and Steel Industry"). Since the adoption on the New York Central Railroad of a particular water gauge, there have been no accidents to the eye. W. C. Posey, "Hygiene of the Eye," 1918, p. 253. The value of goggles is especially attested by the number of shattered lenses in a number of establishments.

[2] See Report of National Committee for the Prevention of Blindness, 1915, p. 41.

[3] It may be noted in this connection that in most of the States the intentional destruction of sight in one or both eyes, as well as injury to other parts of the body, is by statute expressly declared to be felonious, though it could well be included in the ancient law as to mayhem. The punishment varies from imprisonment for a few years to life, depending usually on the degree of the injury. See, for instance,

In a number of States it is required that examination be made of the sight, and usually of the hearing as well, of school children: California, Colorado, Connecticut, Delaware, Indiana, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Utah, Virginia, Vermont, West Virginia, Wyoming, and perhaps other States.[1] This may be conducted by the teacher or by the regular medical inspector, tests often being provided by the State department of education or of health. By many local school authorities similar regulations have been adopted. In some cases special treatment or the furnishing of glasses is allowed. In certain States and cities, also, the proper lighting of school buildings is directed. A further important measure for the protection of the sight is the creation in certain cities of special classes for partially sighted children, so that their eyes may not be subjected to additional strain in their efforts to keep up with other children.[2]

In a number of States also statutes have been enacted with regard to the use of wood alcohol: Alabama, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Kentucky, Maine, Maryland, Minnesota, Montana, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, Wisconsin—and under Fed-

Connecticut, Stat. Laws, 1821, p. 151; 1875, p. 408; 1879, ch. 44; Gen. Stat., 1902, §§ 1142, 1149; Delaware, Rev. Stat., 1915, § 4704; Maine, Rev. Stat., 1916, p. 1457; Arkansas, Dig. Stat., 1916, § 1992; California, Penal Code, 1915, § 203; Ohio, Ann. Gen. Code, 1912, § 12416. Where sulphuric acid was maliciously thrown into the eyes, destroying their sight, the punishment inflicted was imprisonment for twenty years. *State v. Nerzinger*, 220 Mo., 36, 119 S. W., 379 (1909). See also *State v. Ma Foo*, 110 Mo., 7, 19 S. W., 222, 33 Am. St., 414 (1892) (putting out of both eyes from the throwing into them of an alkali, possibly starch); *Respublica v. Langcake*, 1 Yeates (Pa.), 414 (1795) (putting out of one eye); *State v. Simmons*, 3 Ala., 497 (1843) (one eye); *Chick v. State*, 26 Tenn., 161 (1846) (one eye); *State v. Bloedow*, 45 Wis., 279 (1878) (one eye); *State v. Hair*, 37 Minn., 351, 34 N. W., 893 (1887) (one eye); *State v. Holmes*, 20 Del., 196, 55 Atl., 343 (1903) (one eye); *Dahlberg v. People*, 225 Ill., 485, 80 N. E., 310 (1907) (attempt to throw red pepper into eyes).

[1] See L. H. Gulick and L. P. Ayres, "Medical Inspection of Schools," 1913, p. 167; United States Bureau of Education, Bulletin no. 47, 1915, p. 596; *Ophthalmology*, xi., 1915, p. 718; *Chicago Medical Recorder*, xxxvii., 1915, p. 317.

[2] See Chapter XV.

eral laws.[1] Reference for the most part is to the labelling of the drug, to its possession for sale, and to its employment as an adulterant. In some cases there is express mention of the possibility of the causation of blindness from its use. In certain States, moreover, the sale of wood alcohol is more or less carefully prescribed under pure food laws. Regulations in the matter have also been imposed by boards of health, State and local. Though the enforcement of the laws with regard to wood alcohol has been far from general, a more pronounced tendency in this direction is now in evidence in some quarters.[2]

Laws designedly or incidentally of benefit in the preservation of the sight of workers in industrial pursuits are part of the so-called factory or labor legislation now being quite generally enacted in the United States, though it has been only of recent years that the state has felt called upon to extend its protecting hand into workshops. As statutes of this character become broader and more comprehensive, we may expect increased attention to the dangers to the eye, with consequent increased provision for its safety. This legislation may take the form of special enactments intended to protect the sight, or, what is more likely, may be included in more or less general regulations, relating to the sight but indirectly.

The legislation now on the statute books which may be said to have a bearing upon the sight of industrial workers to a greater or less degree is in the main of three kinds: (1) legislation expressly designed to prevent injuries to the eye; (2) legislation requiring proper lighting of work places, included among other provisions of a sanitary nature; and (3) legislation requiring the adoption of safeguards to pro-

[1] Citations are in the main from *Ophthalmology*, xii., 1916, p. 618, with advices also from the National Committee for the Prevention of Blindness.

[2] Convictions have been secured in particular in New York, Massachusetts, and Illinois. In New York City in 1911 there were 13 convictions for failure to use a proper label on wood alcohol; and in 1914 there were 26 barbers found guilty of its illegal use. See Report of Committee for the Prevention of Blindness, 1912, p. 11; 1914, p. 16; 1915, p. 43; Publications, no. 12, 1917, *loc. cit.*, p. 98; Proceedings of National Conference of Charities and Correction, 1916, p. 24.

tect the workers from dust, chiefly meant to guard against respiratory disorders. We have, in addition, other statutory provisions tending to promote safety, which may be of some avail in the protection of the sight. In nearly all of the States there are more or less extensive requirements as to the employment of safeguards. In some cases these apply to various general arrangements; and in some, to the use of particular machinery or material. In certain States industrial boards or similar bodies are given discretionary powers in the directing of safe appliances and surroundings. In a number of States there is public inspection of factories, mines, and other places of work, in part for the purpose of removing whatever may involve especial risk. In a number also there are regulations with regard to blasting operations, the manufacture of explosives or dangerous chemicals, and similar processes carrying hazard. There are, moreover, other forms of industrial legislation which may pertain more or less closely to the safeguarding of the sight. In connection with the general requirement of the reporting of accidents, there may be insured more prompt and more skilled treatment for victims of eye accidents. Similarly, in connection with workingmen's compensation laws, wherein provision is made for the payment of certain sums for the loss of sight, either expressly so designated or included under "total disability," there is afforded a very strong incentive for the installation of proper safeguards for the protection of the eye.[1] Finally, in various regulations of State or local boards of health, or of other boards, greater or less aid is extended in this direction.

Legislation referring directly to the dangers to the eye from accidents or diseases of occupation, with the requirement of the introduction of protective devices if found necessary, has been enacted in one State, namely, Massachusetts. The main provisions of this law are as follows:

> The State inspector of health, or such other officers . . . may make such investigation concerning the eye and vision in their

[1] The matter of workingmen's compensation laws is considered in Chapter XXXIX.

relation to diseases of occupation, including injuries of the eyes of the employees, and to the pathological effects which are produced or promoted by the circumstances under which the various occupations are carried on, as, in the opinion of said board [of health], is practicable, and the board shall from time to time issue such printed matter containing suggestions to employers and employees for the protection of the eyes of employees as it may deem advisable.

If it appears . . . that in any factory, workshop, or other industrial establishment, from the nature of the work or of the machinery used in connection therewith, or of other circumstances, there is danger of injury to the eyes of the employees engaged in such work, and that the danger of injury may be decreased or prevented by a mechanical device or other practicable means, he shall, if said board so directs, order in writing that such device or other means shall be provided therein.

Violation of these provisions may be punished by a fine of $5 to $200 for each week of neglect. An appropriation of $1,000 is made for their enforcement.[1]

Legislation with respect to the proper lighting of workshops and factories is found in a number of States, though in a few of them the application is only to particular industries.[2] The main concern is often apparently in the effect on the article manufactured. In most cases it is required that places of work be "well lighted," "well and sufficiently lighted," or "reasonably well lighted," the matter usually being made a task of the State factory inspector, along with his general duties in respect to sanitation and ventilation. These States are California, Connecticut, Georgia, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Virginia, and Wisconsin. In Connecticut it is also required that window lights which are colored or otherwise wholly or partly opaque be removed if injurious to

[1] Laws, 1911, ch. 603. The Act was in large part secured through the efforts of the Massachusetts Commission for the Blind. See Report, 1915, p. 65.

[2] Citations are in the main from the publications of the United States Bureau of Labor Statistics and of the American Association for Labor Legislation. See also *Ophthalmology*, xiii., 1916, p. 57; *Electric Review and Western Electrician*, lxx., 1917, p. 236; Transactions of Illuminating Engineering Society, 1916, p. 40.

the eye—this being the only instance where the eye is directly mentioned. In Wisconsin and Ohio the industrial commissions are empowered to specify the amount of square surface of window lights to the surface space of the establishment—which is the most satisfactory provision of all.

In perhaps a larger number of States laws have been enacted with regard to injurious dusts arising in the course of labor, especially such as come from minerals or metals. Reference is chiefly, and in most cases expressly, to machinery and appliances for grinding, polishing, or similar purposes, which are sometimes declared to be dangerous; and it is usually provided that there be hoods, fans, blowers, ventilators, suction pipes, or other devices, to catch the dust or filaments, and to prevent them from injuring the workers. Though primarily meant to guard against the inhalation of noxious matter, the devices may prove of very real protection to the sight, the particles often being, as we have seen, of such size and character as seriously to damage the eye. The States with the laws are California, Colorado, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Virginia, Washington, Wisconsin, and Wyoming. In two States there is direct reference to the eye. In Pennsylvania "approved eye protection shall be provided for operators on grinding wheels if the operation involves the possibility of eye injury." In Wisconsin it is directed that "where men are doing work whereby a substance is thrown off which may injure the eyes, suitable goggles or spectacles or other efficient guards must be provided by the employer." In most of the States there are, unfortunately, no exact specified requirements, the regulations being apparently left to the discretion of the inspection officials—safety appliances being provided "as far as practicable," "as far as the nature of the business permits," etc. In a few the character

of the apparatus to be installed is more or less carefully defined.

NOTE TO CHAPTER XI.—On proper and improper lighting (in general of non-technical character), see *Lancet-Clinic*, cxii., 1915, p. 397; *Journal of American Medical Association*, lxi., 1912, p. 1183; *Women's Medical Journal*, xxiii., 1913, p. 202; *Journal of Ophthalmology, Otology and Laryngology*, xix., 1913, p. 299; *Pennsylvania Medical Journal*, xvi., 1912, p. 267; xviii., 1914, p. 217; *Medical Record*, lxxxii., 1912, p. 190; *Wisconsin Medical Journal*, xiii., 1915, p. 316; *U. S. Naval Medical Bulletin*, x., 1916, p. 401; *Electrical World*, lxiv., 1914, p. 159; lxvi., 1915, pp. 576, 1417; lxix., 1917, p. 1203; lxxi., 1918, pp. 607, 665; *General Electric Review*, xviii., 1915, p. 268; *Iron Trade Review*, liii., 1913, p. 743; *American Gas Light Journal*, ci., 1914, p. 198; *Electric Railway and Western Electrician*, lx., 1912, p. 1057; lxv., 1914, p. 998; *Telephone Engineer*, xvi., 1916, p. 251; *Industrial Management*, lv., 1918, p. 117; *Electric Review*, lxxi., 1917, pp. 356, 409; *Illuminating Engineer*, iii., 1908, p. 258; vii., 1914, p. 72; viii., 1915, pp. 414, 451; ix., 1916, p. 436; *Musician*, xxii., 1917, p. 13; *Scientific American*, cxi., 1914, p. 126; *Science*, xi. (n. s.), 1914, p. 84; *Technical World Magazine*, xvi., 1911, p. 275; *American Labor Legislation Review*, i., 1910, p. 113; *World's Work*, xxviii., 1914, p. 151; *Journal of Philosophy, Psychology and Scientific Methods*, xii., 1915, p. 657; Conservation of Vision Pamphlets, iv. ("Relation of Illumination to Visual Efficiency"); Transactions of American Academy of Ophthalmology and Oto-Larvngology, 1913, p. 309; Papers and Reports of American Public Health Association, 1897, p. 485; Report of New York State Industrial Commission, 1916, p. 211; American Encyclopedia of Ophthalmology, 1916, viii., p. 6140; Woods Hutchinson, "Community Hygiene," 1914, p. 137; F. N. Spindler, "The Sense of Sight," 1917, p. 147; W. C. Posey, "Hygiene of the Eye," 1918, pp. 73, 101, 117; "Conservation of Vision, an Essay on the Care of the Eyes," 1911; Travelers Insurance Company, "Illumination and Accident Prevention in Paper Mills," 1915; New York Association for the Blind, "Eyesight and Electric Light," 1917; Wisconsin Industrial Commission, "Shop Lighting," 1914; Illuminating Engineering Society, "Light, Its Use and Misuse," 1912; United Gas Company, of Philadelphia, "Accident Prevention," 1913; Macbeth Evans Glass Company, "Scientific Illumination," 1911; Illuminating Engineering Society, "Code of Lighting for Factories, Mills, and Other Work Places," 1915; Illuminating Engineering Society, "Code of Lighting for School Buildings," 1917; United States Council of National Defense, Advisory Commission, Committee on Labor, "Code of Lighting for Factories, Mills, and Other Work Places," 1918; Transactions of Illuminating Engineering Society, 1909, p. 805; and *passim;* United States Public Health Reports, 1917, p. 1761; Joint Board of Sanitary Control in Cloak, Suit, and Skirt Industry and Dress and Waist Industry, New York, Special Bulletin, no. 2, 1918 ("Light and Illumination in Garment Shops"); Cooper-Hewitt Electrical Co., "Economies of Industrial Lighting," 1918; California Industrial Accident Commission, Safety News, May, 1918. See also publications of Illuminating Engineering Society, and like publications.

On eyestrain, see *New York State Journal of Medicine*, xii., 1912, p. 563; *American Medicine*, x. (n. s.), 1915, p. 683; *New York Medical Journal*, lxvi., 1897, p. 347; xcvii., 1913, p. 128; civ., 1916, p. 1279; *Medical News*, lxxxii., 1903, p. 249; *Lancet-Clinic*, xc., 1903, p. 187; *Medical Times*, xliv., 1916, p. 29; *Medical Review of Reviews*, xviii., 1912, p. 747; *Boston Medical and Surgical Journal*, clii., 1905, p. 713; *Rhode Island Medical Journal*, ii., 1918, p. 71; *Survey*, xxv., 1910, p. 298; *Popular Science Monthly*, lxvii., 1905, p. 736; *Canadian Magazine*, xxv., 1905, p. 19; *Booklover's Magazine*, iii., 1904, p. 669; Conservation of Vision Pamphlets, iii. ("Wearing Glasses"); vii. ("Eyestrain"); xvii. ("The Oculist and the Optician").

On school children's eyes, see *Illinois Medical Journal*, xxi., 1912, p. 106; *Wisconsin Medical Journal*, xii., 1913, p. 63; *Journal of Michigan State Medical Society*, xii.,

1913, p. 407; *Journal of Missouri State Medical Association*, ix., 1913, p. 240; *Colorado Medicine*, xiv., 1917, p. 34; *Journal of Medical Society of New Jersey*, ii., 1906, p. 243; ix., 1912, p. 275; *Journal of American Institute of Homeopathy*, xi., 1918, p. 546; xiii., 1916, p. 656; *Journal of Arkansas Medical Society*, x., 1914, p. 244; *Vermont Medical Monthly*, xx., 1914, p. 68; *Albany Medical Annals*, xxxvii., 1916, p. 453; *Journal of Kansas Medcal Society*, xi., 1911, p. 184; *Nebraska State Medical Journal*, ii., 1917, p. 481; *Lancet-Clinic*, cv., 1911, p. 214; cvi., 1911, p. 656; *American Practitioner and News*, xlv., 1911, p. 611; *Post Graduate*, xxvi., 1911, p. 423; *Journal of Ophthalmology, Otology and Laryngology*, xviii., 1912, p. 455; xxi., 1915, p. 930; xxii., 1916, p. 723; *New York Medical Journal*, lxvi., 1897, p. 74; xcvi., 1912, p. 1222; *Medical Times*, xl., 1912, p. 39; *Journal of Ophthalmology and Oto-Laryngology*, iii.; 1909, p. 324; vi., 1912, p. 1; *Ophthalmic Record*, xxii., 1913, p. 59; *Medical Bulletin*, xxvii., 1905, p. 213; *Chicago Medical Recorder*, xxxv., 1913, p. 459; *Annals of Ophthalmology*, vii., 1898, p. 595; *American Medicine*, v., 1903, p. 264; *Journal of American Medical Association*, lxiii., 1914, p. 484; *Ophthalmology*, v., 1908, p. 1; viii., 1912, p. 188; *Medical Review of Reviews*, xviii., 1912, p. 466; xxii., 1916, p. 736; *Journal of Iowa State Medical Society*, vi., 1916, p. 118; *Psychological Clinic*, iii., 1909, p. 67; *Pedagogical Seminary*, v., 1897, p. 202; *Journal of Education*, lxxii., 1910, pp. 74, 341; *Education*, xxi., 1901, p. 323; *Educational Review*, iii., 1892, p. 348; xiv., 1897, p. 150; xviii., 1899, p. 15; xxvi., 1903, p. 180; xlvi., 1913, p. 492; *School and Society*, iii., 1916, p. 33; *Elementary School Teacher*, vii., 1906, p. 62; *Popular Science Monthly*, xvi., 1880, p. 517; xix., 1881, p. 54; xxiv., 1884, p. 357; lxxi., 1907, p. 303; *Science*, xii., 1888, p. 207; *Scientific American*, Supp., xlix., Feb. 10, 1902; *American Monthly Review of Reviews*, xv., 1897, p. 696; *Catholic World*, xl., 1885, p. 559; *American Journal of School Hygiene*, ii., 1918, p. 39; *Penn Monthly*, vi., 1875, p. 188; *Literary Digest*, xlvi., 1913, p. 394; liii., 1916, p. 1654; University of Missouri Bulletin, no. 5, 1914 ("Relation of Sight and Hearing to Early School Life"); Transactions of International Congress on School Hygiene, 1913, iii., p. 168; v., pp. 55, 78, 107, 351, 369; Transactions of International Congress on Hygiene and Demography, 1912, iii., p. 582; Proceedings of American School Hygiene Association, 1916, pp. 67, 114, 131, 226; 1917, pp. 253, 283; Proceedings of National Education Association, 1903, p. 1020; 1904, p. 939; 1906, p. 173; 1911, p. 1063; Report of Massachusetts Commission for the Blind, 1913, p. 31; 1914, pp. 20, 37, 48; Conservation of Vision Pamphlets, i. ("School Children's Eyes"); xv. ("Ocular Hygiene in Schools"); United States Bureau of Education, Circular of Information, Aug., 1870 (eye diseases); Bulletin, no. 6, 1881; 48, 1913, p. 44; United States Children's Bureau, Publication no. 8, 1914, p. 30 ("Infant Care"); no. 30, 1918, p. 55 ("Child Care"); New York State Department of Health, "Why It Is Necessary to Protect the Eyes . . . of School Children," 1912; Superintendent of Public Instruction of North Carolina, Public School Health Bulletin, "Eyes and Ears," 1910; J. W. Smith, "Defects of Vision and Hearing in the Public Schools," 1904; F. B. Dressler, "School Hygiene," 1916, pp. 53, 221; W. F. Barry, "Hygiene of the School Room," 1903, p. 64; E. R. Shaw, "School Hygiene," 1906, p. 170; L. R. Rapeer, "School Health Administration," 1913, pp. 122, 161; S. H. Rowe, "Lighting of Schoolrooms," 1906; May Ayres, "Healthful Schools," 1918, p. 64; Simeon Snell, "Eyesight and School Life," 1895 (England); Report of British Association for the Advancement of Science, 1912, p. 295; New York City Department of Health, Monthly Bulletin, Nov., 1918.

On dangers to the eye in industry, see National Committee for the Prevention of Blindness, Publications no. 12, 1917, "Eye Hazards in Industrial Occupations" (G. L. Berry); *Ophthalmology*, v., 1909, p. 606; xi., 1915, p. 437; *Journal of Ophthalmology, Otology and Laryngology*, xx., 1914, p. 330; *New York State Journal of Medicine*, xii., 1912, p. 569; xvi., 1916, p. 253; *Journal of Indiana State Medical Association*, vii., 1914, p. 141; *Pennsylvania Medical Journal*, xx., 1917, pp. 504, 695; *Ohio State Medical Journal*, xi., 1915, p. 309; *Therapeutic Gazette*, xix. (n. s.), 1903, p. 529; *Medical Bulletin*, xxvii., 1905, p. 246; *Wisconsin Medical Journal*, xvi., 1918, p. 435;

Journal of Oklahoma Medical Association, xi., 1918, p. 228; *Journal of American Medical Association*, lix., 1912, p. 2048; *Ophthalmic Record*, xxiv., 1915, p. 511; *Medical Review of Reviews*, xviii., 1912, p. 384; *International Journal of Surgery*, xxv., 1912, p. 395; *Railway Surgical Journal*, xix., 1913, p. 224; *Chambers's Journal*, xxix., 1858, p. 357; *American Labor Legislation Review*, ii., 1912, p. 223; *American Photo-Engraver*, vi., 1914, pp. 152, 188; *Coal Age*, x., 1916, p. 553; *Illustrated World*, xxxv., 1916, p. 101; *Journal of Industrial and Engineering Chemistry*, iv., 1912, p. 735; Ohio State University Bulletin, xvii., 1912, no. 51; *Chicago Daily News*, Nov. 4, 1906; Conservation of Vision Pamphlets, xiv. ("Eyes of Transportation Employees"); American Encyclopedia of Ophthalmology, 1916, viii., p. 6203; H. V. Würdeman, "Injuries to the Eye," 1911; B. F. Goodrich Co., "Importance of Eyesight and Its Conservation," 1915; W. G. Thompson, "The Occupational Diseases," 1914; G. M. Price, "The Modern Factory," 1914; E. E. Hayhurst, "Industrial Health Hazards in Ohio," 1915; G. M. Kober and W. C. Hanson, "Diseases of Occupation and Vocational Hygiene," 1916, p. 307; William Beaumont, "Injuries to the Eyes of the Employed," 1907 (England); Thomas Oliver, "Dangerous Trades," 1902, p. 761 (England); Thomas Oliver, "Diseases of Occupation," 1908, pp. 353, 379 (England); H. N. Barnett, "Accidental Injuries to the Eye," 1911, p. 200 (England); A. M. Ramsay, "Eye Injuries and Their Treatment," 1907 (England); Report of New York State Department of Labor, 1911, p. 71; New York State Department of Labor, Special Bulletin, no. 86, Dec., 1918; Report of Illinois Commission on Occupational Diseases, 1911, pp. 87, 155; Bulletin of Illinois Department of Factory Inspection, i., 1914, 2, April, p. 18; Report of United States Department of Labor on Condition of Woman and Child Wage-earners, 1913, iii., p. 255; Bulletin of United States Bureau of Labor Statistics, no. 212, 1917, pp. 353, 391; *Monthly Review*, vi., 1917, 2, Aug., p. 186; vi., 1918, 4, April, p. 295; Proceedings of American Academy of Arts and Sciences, 1916, p. 627; Transactions of American Academy of Ophthalmology and Oto-Laryngology, 1915, p. 237.

On proper measures to be employed in industry for the protection of the sight, see National Committee for the Prevention of Blindness, Publications no. 12, 1917, *loc. cit.*; J. R. Commons and J. B. Andrews, "Principles of Labor Legislation," 1916, pp. 328, 331; D. S. Beyer, "Industrial Accident Prevention," 1916; George Bradshaw, "Safety First," 1913, p. 119; W. H. Tolman, "Safety," 1913, pp. 78, 81, 86, 180; G. A. Cowee, "Practical Safety Methods and Devices," 1916, pp. 357, 407; M. W. Alexander, "Safety in the Foundry," 1915; David Van Schaak, "Safeguards for the Prevention of Industrial Accidents," ed. 1913; S. W. Ashe, "Organization in Accident Prevention," 1917, pp. 47, 102; C. M. Hansen, "Universal Safety Standards," 1914; W. M. Beaumont, "Injuries to the Eyes of the Employed and the Workmen's Compensation Act," 1907 (England); *Archives of Ophthalmology*, xliii., 1914, p. 380; *Safety Engineering*, xxix., 1915, p. 91; xxx., 1915, p. 133; xxxii., 1916, p. 377; xxxiii., 1917, p. 2; *Foundry*, xli., 1913, p. 382; xlii., 1914, p. 101; *Coal Age*, x., 1916, p. 581; *Iron Trade Review*, liii., 1913, pp. 404, 414; lxiii., 1918, p. 733; *Illinois Medical Journal*, xxxiv., 1918, p. 109; *General Electric Review*, xx., 1917, p. 903; *Machinery*, xxi., 1914, pp. 296, 570; xxiv., 1918, p. 818; *Automotive Industry*, xxxvii., 1917, p. 1011; *Pennsylvania Medical Journal*, xvi., 1913, p. 272; xvii., 1913, p. 700; *California State Journal of Medicine*, xvi., 1918, p. 377; *Ophthalmic Record*, xxii., 1913, p. 709; *Scientific American*, Supp., lxxxv., June 22, 1918; *Industrial Engineering*, xiii., 1913, p. 427; *American Labor Legislation Review*, i., 1911, p. 35; *Railway Review*, xlix., 1916, p. 510; Pennsylvania Department of Labor and Industries, Monthly Bulletin, Dec., 1914; Nov., Dec., 1916; March, 1917, p. 90; Massachusetts Board of Labor and Industries, Industrial Bulletin, 1916, no. 5; California Industrial Accident Commission, Safety News, "Eye Accidents and Their Prevention," 1917; Aug., 1918; New York State Department of Labor, Special Bulletin, no. 66, May, 1916, p. 48; Special Bulletin, no. 82, May, 1917; Wisconsin Industrial Commission, Bulletin, ii., 1913, no. 7, p. 169; University of Wisconsin,

Extension Division, Bulletin, 1916, "The Eye in Industrial Accidents;" American and Iron Steel Institute, Bulletin, i., 1913, April, p. 122; American Museum of Safety, Bulletin, May, 1917, p. 118; Jan., 1919; United States Department of Commerce, Bureau of Standards, Technical Paper, no. 93, 1917; United States Bureau of Labor Statistics, no. 216, 1917, p. 57; Fidelity and Casualty Company of New York, "Prevention of Industrial Accidents," 1909; Aetna Life Insurance Company, "Woodworking Safeguards," 1911; Travelers Insurance Company, "Safety in Building Construction," 1916, pp. 7, 98; Travelers Insurance Company, "The Employee and Accident Prevention," 1914; Travelers Insurance Company, "Grinding Wheels," 1912; Utica Mutual Compensation Insurance Corporation, Bulletin 26, "Eye Injuries, Cause and Prevention," 1915; Proceedings of National Safety Council, 1915, pp. 608, 69c; 1916, p. 1299; and *passim;* Transactions of Pacific Coast Oto-Ophthalmological Society, 1916, p. 26; National Safety Council, "Safety Code for the Use and Care of Abrasive Wheels," 1915; National Safety Council, "Safety Practices," i., 14, 1918; Transactions of Illuminating Engineering Society, 1914, pp. 307, 472. See also various publications of safety organizations, and of manufacturers of goggles and other safety devices.

CHAPTER X

BLINDNESS AS AN INCREASING OR A DECREASING PHENOMENON

The next matter for inquiry with respect to the possibilities of the prevention of blindness is as to whether it is increasing, decreasing, or remaining stationary in relation to the general population. To determine this, we may have initial recourse to the returns of the Federal censuses, giving the number of the blind in the United States as compared with the number of the general population. The following table, based upon the census returns from the year 1830, when the first census of the blind was made, to the year 1910, will show the number of the blind found in each, together with their number per million of the general population, and the rate of increase or decrease of the number of the blind of each census over that of the preceding one.[1]

NUMBER OF THE BLIND FROM 1830 TO 1910

	Number	*Number per million of population*	*Percentage of increase or decrease over preceding census*
1830	5,444	423	.....
1840	6,932	406	27.3
1850	9,794	422	41.3
1860	12,658	403	29.2
1870	20,320	527	60.5
1880	48,928	976	140.8
1890	50,568	808	3.4
1900	64,763	852	28.1
1910	57,272	623	—11.6

[1] See "The Blind in the United States," 1917, pp. 17–20, 24–26, 29, 32–35, 45, 46, 86–88, 101, 102; "The Blind Population of the United States," 1916, pp. 9–11, 14, 17, 24. See also Special Reports of the Census Office, "The Blind and the Deaf," 1906; Census Reports, 1890, Report on the Insane, the Feeble minded, Deaf and Dumb, and Blind in the United States, 1895, pp. 108, 127, 141, 142, 648, 737-739; Census Reports, 1880, Report on Defective, Dependent, and Delinquent Classes of the Population of the United States, 1888, p. 402.

According to this table, from 1830 to 1860 the number of the blind remained fairly stationary with relation to the general population. From 1860 to 1870 the number shows a very great increase, and an even greater one from 1870 to 1880. In 1890 there is a certain decrease, but a small increase again in 1900. In 1910 there is found a very considerable decrease, with also an absolute decrease in the number of the blind over the preceding ten-year period, this being the only actual decrease recorded during the entire period covered by the census. Similar variations in the numbers of the blind in different census returns appear in the increase in the percentage in one period over that in a preceding one, with a decrease in the latest decennium, that from 1900 to 1910, though deductions of this character are of less significance because of their want of reference to the growth of the general population.

The results of the census findings, however, we are not permitted to accept at their face value. They are to be offered as the only statistics which we have in the matter, and with the proper pointing out of their shortcomings. Comparisons of one census with another are difficult for several reasons. The censuses have often been taken on somewhat different bases; and there have not always been the same conceptions as to who were to be embraced among the "blind." Moreover, it is possible that certain censuses have proved of a more thorough-going character than have others, with the consequent inclusion of a larger number of the blind in some than in others. Hence calculations entirely dependent upon the foregoing figures may turn out to a greater or less extent to be misleading and unsafe. It is thus not likely that blindness has at all increased from 1860 to 1900 at the rate indicated in the table. At the same time it is very doubtful if there has been such a marked falling off from 1900 to 1910 as is denoted. It is practically certain, for one thing, that better efforts are now being put forth to obtain full and accurate returns.[1]

[1] "Although . . . the Federal statistics of the blind extend over the greater part

The trustworthiness of the census statistics as a whole is thus commented upon by the report for 1910:

In general, it should be clear . . . that the figures shown . . . are of little value as a measure of the actual increase or decrease in the relative frequency of blindness during the period covered. It is not improbable, nevertheless, that the changes in the ratio of the reported blind population to the total population . . .

of a century, they shed very little light on the question as to whether blindness is relatively more or less frequent at the present time than in the past. Differences in method and other causes have affected the completeness with which the blind population was enumerated at the different censuses; and in the more recent enumerations differences in the definition of blindness have brought in a further element of uncertainty as to the degree of comparability existing in the figures. . . . There is little question that for all censuses prior to 1880 the figures are seriously deficient. ('The figures for the United States censuses previous to 1880 are worthless so far as the calculation of ratios of blind to population are concerned.' Report on the Insane, Feeble-minded, Deaf and Dumb, and Blind in the United States at the Eleventh Census, 1890, p. 127.) In theory, however, they should be generally comparable with each other, as the only change during the period in the method of reporting was that involved in the change of form of the general schedule at the census of 1850 by the substitution of a column in which to report the existence of blindness in each individual case for a line on which to state the number of persons covered by the schedule who were blind; and at all five censuses the enumerators were apparently permitted to follow out their own ideas as to who should be reported as blind, no instructions whatever being issued on this point prior to the census of 1870, when the enumerators' instructions contained the statement that the inquiry was intended to cover 'total' blindness only. The comparatively small variations shown by the first four censuses . . . in respect to the number of blind enumerated per 100,000 of the total population suggest that as regards these censuses such comparability exists, since, so far as known, no special causes were operative during the period covered by these censuses which would have tended to bring about any very material change in the prevalence of blindness." "The Blind in the United States," p. 17; "The Blind Population of the United States," p. 10. It is further believed that the census of 1870 was "somewhat more complete than those preceding it," and that "a much fuller enumeration of the blind appears to have been obtained." As for the census of 1880, this was "probably the most complete enumeration of the blind ever made in the United States," by reason of special supplementary schedules with instructions sent out, and by reason of the additional correspondence, which included the partially blind also if unable to see sufficiently well to read. The proceedings in the census of 1890 were similar to those of 1880, except that the test of blindness was made to depend upon the ability to count fingers at a distance of one foot, this perhaps reducing the number somewhat, as persons with this less rigid qualification would be less likely to be enumerated, as would be the case also with certain illiterate persons. In 1900 special blanks, with subsequent schedules, were employed, while the test was changed to the ability to read with the aid of glasses; and in the returns were included all who filled out the schedule, but none who did not, so that the real net blind population was probably about 62,800. In 1910 the methods did not greatly differ, though the practice prior to 1880, namely, of noting cases of blindness in a special column of the regular population schedules, was resorted to; and the actual number of the blind, as we have previously observed, was believed to be near 71,000.

may in some degree reflect actual changes in the prevalence of blindness. During the last half century between 1860 and 1910 certain definite causes tending to produce an increase in the relative frequency of blindness were in operation, conspicuous among these being the increase in the proportion of old people in the general population, the rapid industrial development of the country, with the accompanying increase of blindness occasioned by industrial accidents or occupational diseases, and, during the earlier years of the period more particularly, the effects of the Civil War in causing blindness through wounds or disease incident to military service. It seems not unlikely that the apparent increase between 1860 and 1880 in the ratio of the blind to the total population represented an actual increase resulting from the causes just mentioned. As against these influences there is the conspicuous advance in medical knowledge of the eye and its diseases, dating from the invention of the ophthalmoscope in 1851, which has contributed greatly to the prevention of blindness, and the campaign against preventable blindness; and these latter factors may to some extent be responsible for the decrease in the ratio between the blind and the total population since 1880.[1]

With respect to changes in the geographical distribution of the blind according to the several census periods, the following table may be presented, which shows such distribution in percentages, together with the distribution of the general population, in the divisions of the country as employed by the census report, from 1830 to 1910. Here it appears on the whole, that there has been no great variation in the proportion of the blind in the several sections as compared with the general population. The main divergencies are found in a certain decrease in the ratio of the blind to the general population in the States on the Atlantic seaboard, excepting those in New England, and in a certain increase in the States between the Allegheny Mountains and the Mississippi River.

[1] "The Blind in the United States," pp. 19, 20; "The Blind Population of the United States," p. 11.

GEOGRAPHICAL DISTRIBUTION OF THE BLIND AND OF THE GENERAL POPULATION IN DIFFERENT CENSUS PERIODS

	1830	1840	1850	1860	1870	1880	1890	1900	1910
United States:									
Total population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Blind population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New England:									
Total population	15.2	13.1	11.8	10.0	9.0	8.0	7.5	7.4	7.1
Blind population	14.7	14.4	12.1	10.3	9.1	8.9	8.6	7.5	7.1
Middle Atlantic:									
Total population	27.9	26.5	25.4	23.7	22.9	20.9	20.3	20.3	21.0
Blind population	26.7	25.3	24.1	25.0	21.1	19.9	18.1	16.9	17.5
East North Central:									
Total population	11.4	17.1	19.5	22.0	23.7	22.3	21.5	21.0	19.8
Blind population	6.8	10.0	14.8	18.8	20.8	20.8	22.2	22.6	20.5
West North Central:									
Total population	1.1	2.5	3.8	6.9	10.0	12.3	14.2	13.6	12.7
Blind population	0.7	1.9	2.9	5.3	8.0	10.3	12.5	13.5	11.7
South Atlantic:									
Total population	28.3	23.0	20.2	17.1	15.2	15.1	14.1	13.7	13.3
Blind population	37.2	31.7	25.7	20.3	18.5	17.2	15.6	14.1	14.5
East South Central:									
Total population	14.1	15.1	14.5	12.8	11.4	11.1	10.3	9.9	9.1
Blind population	11.7	15.2	15.6	14.3	14.5	13.5	12.2	12.7	12.3
West South Central:									
Total population	1.9	2.6	4.1	5.6	5.3	6.6	7.3	8.6	9.6
Blind population	2.3	1.5	3.9	4.1	5.8	6.5	7.2	8.1	9.8
Mountain:									
Total population	.....	.....	0.3	0.6	0.8	1.3	1.8	2.2	2.9
Blind population	.....	.....	1.0	1.3	1.1	1.4	1.5	2.0	3.1
Pacific:									
Total population	.....	.....	0.5	1.4	1.8	2.2	3.0	3.2	4.6
Blind population	.....	.....	.....	0.6	1.1	1.6	2.1	2.6	3.6

The relative proportions of the two sexes in the censuses from 1850 to 1910 are indicated in the number of males per 100 females in the different periods, the number of the former in 1850 being 125.7, in 1860 133.1, in 1870 126.4, in 1880 120.6, in 1890 124.9, in 1900 133.7, and in 1910 130.7. On these deviations we may quote from the census report for 1910:

The variations from census to census in the ratio of blind males to blind females are not easy to explain. The decrease in the ratio between 1860 and 1880 may result in part from an increased accuracy of enumeration, affecting the number of blind females to a somewhat greater extent relatively than the number of blind males; cases of blindness from injury, which . . . occur among the male population to a much greater extent than among the female, are perhaps less likely to be missed than cases of blindness from disease, which constitute the bulk of the cases found among the female population. This seems the more probable for the reason that these decades, particularly that from 1860 to 1870, would have been expected to show an

increase in the ratio by reason of the cases of blindness resulting from wounds received or diseases contracted in the Civil War. The increase in the ratio which is shown by 1910 as compared with 1880 may be accounted for, at least in part, by the great industrial growth of the country during this period, one result of which would naturally be an increase in the number of cases of blindness from industrial accident or occupational disease, and hence in the number among the male population. Furthermore, the progress which has been made during this period in the treatment of diseases of the eye, and hence in the prevention of blindness from disease, would, unless accompanied by equal progress in the prevention of blindness from industrial accidents, which seems rather doubtful, have reduced the ratio of blindness to a greater extent relatively among the female population than among the male, and in this way tended to raise the ratio of males to females in the blind population.[1]

The constitution of the blind according to nativity and race in the census periods is shown in the following table, which gives the proportion of the native-born whites, foreign-born whites, Negroes, and other colored, as well as the number per million of the general population of the same nativity and race, from 1860 on.

CONSTITUTION OF THE BLIND BY NATIVITY AND RACE IN DIFFERENT CENSUS PERIODS

	1860	1870	1880	1890	1900	1910
	Per cent distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Native-born whites	70.8	67.7	67.6	67.6	70.8	65.7
Foreign-born whites	14.0	15.8	16.8	18.1	16.5	17.4
Negroes	15.2	16.3	15.1	14.0	11.8	15.5
Other colored	.....	0.2	0.5	0.3	0.9	1.5
	Number per million of general population of same nativity and race					
Total	403	527	976	808	852	623
Native-born whites	392	490	897	746	810	550
Foreign-born whites	432	584	1,254	1003	1,047	745
Negroes	433	681	1,122	945	866	900
Other colored	51	371	1,552	933	1,656	2,031

[1] "The Blind in the United States," p. 29; "The Blind Population of the United States," p. 14.

With certain variations, there is seen to be but little change in the relative proportions of these groups in the time covered by the censuses, though a slight decrease in the proportion of the native-born whites and a slight increase in the proportion of the foreign-born whites are to be detected. In the number of the blind per million of the general population of the same group, there is an increment in all of them from 1860 to 1880. After the latter year for both classes of whites there is a very considerable decline, notwithstanding an interruption in 1900. Among Negroes a decrease is met till 1900, but an increase between that year and 1910—which, coupled with the circumstance that there is a gain in their relative proportion in the same period, seems to indicate that with this race the forces at work to cause a diminution of blindness have operated to a less extent than among the whites, though the difference is probably not so great as the figures might imply.

In our efforts to ascertain whether or not blindness is increasing in relation to the general population, we have other statistics from the census returns which may afford us important assistance. These statistics are in respect to the groupings of the blind according to age, and in respect to the groupings according to the age of the occurrence of blindness, in the different censuses. In the following table are shown the percentages of the blind at the several age periods, and the numbers per million of the general population of the same age, as found in the censuses from 1860 to 1910.

THE BLIND ACCORDING TO AGE IN DIFFERENT CENSUS PERIODS

	1860	1870	1880	1890	1900	1910
Per cent distribution						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	2.5	1.6	1.9	1.5	1.0	1.0
Under 1	0.3	0.2	0.2	0.2	.....	0.1
1 to 4	2.2	1.4	1.7	1.3	.....	0.8
5 to 9	4.5	3.9	3.7	2 9	2 6	2.2
10 to 14	6.0	6.5	5.6	4.2	4.5	3.5
15 to 19	7 0	6.7	5.9	4.5	4.9	3.9
20 to 39	21.3	21.1	18.9	17.0	15.3	16.3
40 to 59	22.6	23.1	22.6	24.3	23.3	23.7
60 or over	36.0	37.1	41.5	45 8	48.5	49.4
Number per million of general population of same age						
Total	403	527	976	808	852	623
Under 5	66	58	135	100	70	52
Under 1	43	36	75	64	.....	32
1 to 4	72	63	151	109	.....	57
5 to 9	137	166	281	188	187	128
10 to 14	204	275	478	294	356	219
15 to 19	264	338	571	338	414	243
20 to 39	276	367	594	426	405	305
40 to 59	681	814	1,440	1,219	1,169	826
60 or over	3,370	3,896	7,178	5,866	6,414	4,542

It is observed that there has been a steady decrease in the relative number of the blind in childhood and youth, the proportion under twenty years of age falling from one-fifth (20.1 per cent) in 1860 to slightly more than one-tenth (10.5 per cent) in 1910, with the decrease the more pronounced in the earlier years of life. Since 1880, furthermore, there has been an absolute decrease in the number of such blind persons. There is also a noticeable decrease in the proportion between the twentieth and the thirty-ninth year, or from 21.3 per cent to 16.3 per cent. A corresponding increase is seen in the proportion in middle and advanced adult life, this being but little between the fortieth and the fifty-ninth year, or from 22.6 per cent to 23.7 per cent, but very considerable after the sixtieth year, or from somewhat more than one-third (36.0 per cent) to very nearly one-half (49.4 per cent). In the number of the blind in the several age groups per million of the general population,

the increase from 1860 to 1880 is also found to be relatively least for the youngest classes, and greatest for the oldest, and the decrease since 1880 greatest for the former, and least for the latter. Upon this general decrease in the proportion of the blind in the earlier years of life and increase in the proportion of those in later years in the census periods, comment is made in the report for 1910 as follows:

Of the various factors which have contributed to bring about the changes in the age distribution of the blind population . . . probably the most influential is the change in the age distribution of the general population, this being, in fact, responsible for the increase in the proportion 60 or over in the blind population. Persons 60 years of age or over represented only 4.3 per cent of the total population of the United States in 1860, as compared with 6.8 per cent in 1910; since old age is the period of life in which blindness is most prevalent, a relatively small increase in the proportion of the general population over 60 years will normally be accompanied by a relatively large increase in the proportion of blind above that age. Another factor of importance is the development of medical knowledge and treatment of diseases of the eye, which dates practically from the invention of the ophthalmoscope in 1851, and is therefore virtually synchronous with the period covered. . . . Of particular interest in this connection is the discovery of the etiology and method of prophylaxis of ophthalmia neonatorum, dating from about 1880, the results of which are plainly apparent in the decrease shown by each census since 1880 in the number of blind children under 5 years of age enumerated, as well as in the percentage which they formed of the total blind population and their ratio to the total population under 5 years of age. Still other factors which may be mentioned are the rapid industrial growth of the country with the consequent increase in cases of blindness from industrial accidents, which would tend to increase the relative number of adults among the blind, and the campaigns instituted during recent years against the various forms of preventable blindness. . . .

The decrease shown in the percentages for all the age groups under 20 years is probably in considerable measure the result of the discovery, during the decade 1880–1890, of the means of prophylaxis against ophthalmia neonatorum, which has greatly reduced the number of cases of blindness resulting from this disease, and which at the census of 1910 would have affected

almost solely the numbers in the younger age groups of the blind population. The larger proportion of old people among the blind is, of course, in part the natural consequence of the decrease in the proportion at the younger ages; moreover, since blindness is not ordinarily associated with any disorder likely to occasion death, any general advances in medical science bringing about a reduction in the number of persons annually becoming blind would tend to increase the relative number of old persons in the blind population, partly by reason of the advancing age of those already blind and partly because those threatened with blindness in extreme old age are less likely to seek medical or surgical relief than those at the earlier ages.[1]

The changes in the age distribution of the blind at the different censuses have effected an increase in the median age of the blind population. In 1860 this was 47.7, in 1870 49.0, in 1880 52.3, in 1890 56.7, in 1900 58.9, and in 1910 59.6—a gain in the entire period of a dozen years, as against a gain for the general population of less than five years, the latter being from 19.4 to 24.0.

The blind population of the United States at the present time is thus a distinctly older population than it was 50 years ago, and it is probable that this tendency toward concentration in the older age groups will become even more prominent in the future, as increasing knowledge concerning the occupations involving a special risk of blindness from accident or occupational disease permits the development of more effective means of combating the industrial hazard and as the campaign against blindness from preventable disease, and particularly from ophthalmia neonatorum and trachoma, becomes more widely spread and more effective.[2]

With regard to the groupings of the blind according to age of the loss of sight in different years, the following per-

[1] "The Blind in the United States," pp. 34, 35. See also "The Blind Population of the United States," p. 17. "The increases in question indicate to some extent a progressive decrease during recent years in the number losing sight in infancy or early life. . . . The age groups in question comprise all but a small proportion of the cases of blindness from infancy occurring since the introduction of the Credé method of prophylaxis for ophthalmia neonatorum." "The Blind in the United States," pp. 93, 94.

[2] *Ibid.*, p. 35. See also "The Blind Population of the United States," p. 17.

centage table is presented, which relates to the censuses of 1880 and 1910, statistics for other years being unsatisfactory for comparative purposes.

THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS IN DIFFERENT CENSUS PERIODS

	Under 20	*Under 5*	*Born blind*	*Under 1*	*1 to 4*	*5 to 9*	*10 to 14*	*15 to 19*
1880	36.2	21.7	12.8	2.4	6.4	6.2	4.6	3.9
1910	30.8	16.4	6.6	5.0	4.8	5.3	4.3	4.0

	20 to 59	*20 to 24*	*25 to 34*	*35 to 44*	*45 to 54*	*55 to 59*
1880	37.4	4.3	8.4	9.7	10.4	4.5
1910	40.7	4.4	8.7	10.0	11.4	5.7

	60 and over	*60 to 64*	*65 to 69*	*70 to 74*	*75 to 79*	*80 and over*
1880	26.4	6.3	5.7	5.8	4.1	4.5
1910	28.5	6.7	6.2	6.1	4.3	4.7

Here again the percentage of the blind losing sight in childhood and youth, that is, under twenty years of age, shows a decrease in the period covered, or from 36.2 to 30.8. This decrease, the more marked the earlier the age, is found for every group, except that becoming blind under one year (probably to be taken with that of the congenitally blind, as the two have at times been confused, in which case the usual decrease appears), and except that losing sight in the last five-year period. The proportion losing sight after the twentieth year, on the other hand, manifests an increase, this being from 37.4 per cent to 40.7 per cent for those losing it between the twentieth and the fifty-ninth year, and from 26.4 per cent to 28.5 per cent for those losing it after the sixtieth year, in the particular groups of both of which classes the decreases are reflected in fairly similar ratios. It may also be noted that the median age of the occurrence of blindness in the time referred to has advanced from 35.7 to 41.0. The reasons for these changes

are very much the same as for those respecting the proportions of the blind at different age periods, namely, that they fall in with the age distributions of the general population—together with the very strong likelihood that there has been a decline in the incidence of blindness in the earlier stages of life, especially in its first years.

With regard to sex, it is found that between the census of 1890 and that of 1910 there is scarcely any difference among females in the proportions becoming blind at the different periods of life, the percentages becoming so under the twentieth year being respectively 33.3 and 33.0, and the percentages becoming so after that time being respectively 66.7 and 67.0. Among males there is a slight decrease for those losing sight before twenty, or from 32.3 per cent to 29.2 per cent, and a corresponding increase for those losing sight after that year, or from 67.7 per cent to 70.8 per cent. The rise in the proportion of males becoming blind in adult life is doubtless in the main due to their special liability to industrial injuries.

In order more definitely to determine whether or not blindness is gaining in relation to the general population, a different course is to ascertain, so far as we may, what causes show indications of increase, and what indications of decrease. In the following table are given the percentages of blindness from the several causes for which comparison can be made, as found in the censuses for 1890, 1900, and 1910, these not being separately reported prior to 1890.[1]

[1] The returns for 1900 are, because of their less satisfactory nature, to be taken with some reserve. It is to be understood with respect to both this table and the following tables, that an increase in the proportions of blindness from certain causes but indicates to a certain extent the reflection of a decrease in the proportions from other causes.

CAUSES OF BLINDNESS IN 1890, 1900, AND 1910

	1890	1900	1910		1890	1900	1910
Total	100.0	100.0	100.0	Foreign substances in the eye	....	0.4	0.7
Trachoma	.....	1.8	1.5	Congenital	8.4	7.3	5.5
Glaucoma	0.4	1.4	3.4	Catarrh and colds	....	2.3	1.2
Cataract	9.7	12.1	11.2	Exposure to heat	....	0.7	1.5
Smallpox	0.9	0.7	0.8	Military service	1.5	3.7	1.9
Measles	1.9	2.2	1.7	Neuralgia	....	2.7	2.6
Scarlet fever	1.1	1.0	1.0	Old age	....	6.0	2.3
Influenza (grippe)	.....	1.2	0.7	Scrofula	3.6	1.8	0.8
Brain disease (including meningitis)	4.7	2.0	2.5	Sore eyes	....	5.8	3.1
				Strained eyes	....	2.0	0.8
External injuries	14.1	10.2	13.5	Miscellaneous and unknown	53.7	34.7	43.3

Unfortunately, we find that such important causes of blindness as ophthalmia neonatorum and atrophy of the optic nerve are not distinctly mentioned in the censuses before 1910, and hence may not be submitted for comparative purposes. The same is true of certain other less prominent causes, as corneal ulcer, poisoning, and paralysis. Only three specific affections of the eye are set down in the table, namely, trachoma, glaucoma, and cataract. Of these the first named, as designated in the two latest censuses, alone shows a decrease, which is the case also, however, with its kindred disorder, "sore eyes." By glaucoma a marked increase is manifested from the beginning, this probably being in large measure accounted for by the more accurate reporting of later censuses, and by the actually greater number of old people now in the population, among whom the disease is relatively very prevalent. In neuralgia, a cognate affection, there is practically no change since 1900. With cataract there is a certain gain since 1890, though a slight loss since 1900, the gain being doubtless similarly explained by the growth of the number of old people.

Among the general diseases responsible for the loss of sight, including smallpox, measles, scarlet fever, influenza, and brain disease, the differences in the proportions in later censuses over those in former are on the whole but little, though in all cases there is a tendency towards a diminution. In brain disease, which embraces meningitis, there is a notable falling off since 1890, though a slight increase since 1900. It is possible that with this disease there was formerly listed a certain amount of blindness from atrophy of the

optic nerve, such often following in its wake. A considerable decrease is also found from scrofula, which in 1890 included other blood diseases; and from catarrh and colds since 1900. These results are due, we may believe, both to a better medical control of such diseases, and to a more precise classification, whereby certain formerly included cases are listed elsewhere.[1]

In blindness from external injuries there is a slight decrease on the whole, though an increase since 1900. That there has been a reduction in the number of cases from accidents is rather to be expected, in view of more and more general insistence upon caution in operations in which there lies danger to the sight, and in view of the wider adoption of safeguards for the protection of the eye, though this has been to a greater or less extent offset by the growth of modern industry.[2] In blindness from foreign particles in the eye and from exposure to heat (including exposure to cold as well in 1900) there is a certain increase since 1900, and in that from strained eyes a decrease. The proportion of blindness from military service shows a slight increase since 1890, but a decrease since 1900. In congenital blindness there is a steady decrease, and also in that from old age since 1900, both now probably listed to a greater extent among other causes.[3]

[1] It may be noted in this connection that in the registration area of the United States, the average annual number of deaths per 100,000 of the population, due to certain of the diseases which cause blindness, were, respectively, from 1901 to 1905, from 1906 to 1910, and from 1911 to 1916 (in a few cases from 1913 to 1916) as follows: smallpox, 3.4, 0.2, and 0.2; scarlet fever, 11.0, 10.6, and 4.6; meningitis, 31.7, 19.4, and 8.4; measles, 9.0, 10.8, and 8.5; influenza, 19.9, 16.4, and 15.0; typhoid fever, 32.0, 25.6, and 16.1; syphilis, 4.1, 5.4, and 8.3; locomotor ataxia, 2.4, 2.6, and 2.6; hydrocephalus, 1.6, 1.4, and 1.3; paralysis, 20.1, 16.1, and 9.1; senility (of rather uncertain comparability), 41.0, 29.0, and 19.4; and accidents (in general), 84.9, 86.0, and 81.0. Bureau of the Census, "Mortality Statistics: 1916," 1918, pp. 20–40, 78–81. It thus appears that with most general diseases, with the exception of those of venereal character, there has been a decided decrease within the years indicated. This circumstance may be taken to mean that in all probability there has been a similar, if not a corresponding, decrease in the number of cases of blindness resulting from these diseases.

[2] It may be remarked that of the general population of the United States gainfully employed in 1910, the proportion in manufacturing and mechanical pursuits, including mining, was 28.3 per cent, whereas in 1900 it was 21.8 per cent.

[3] A further reason for the expectation of a decrease in the number of cases of blind-

From another source it is possible to learn something with respect to the increase or the decrease of blindness from specific causes over a greater or less period of time. This is in a comparison of the causes in different years as found in the reports of certain schools for the blind, and relating to the blind children in them. In the following tables are presented the causes of blindness, with their respective percentages, among the total number of pupils in the Pennsylvania Institution from the beginning to 1853, to 1862, and to 1866, and among new admissions triennially from 1871 to 1917, with the exception of the years 1882–1886; among the total number in the Ohio School in 1872, and among new admissions triennially from 1873 to 1913; among the total number in the New York State School from the beginning to 1874, among the total number in attendance annually from 1884 to 1901, with the exception of the years 1893 and 1895–1900, and among new admissions triennially from 1902 to 1917; among the total annual attendance in the Iowa School in 1863, 1869, and 1875, and among new admissions quadrennially from 1882 to 1916; among the total number in the Colorado School from the beginning biennially from 1886 to 1916, with the exception of the years 1896 and 1898; and among the total number in attendance in the Illinois School in 1894, among the total number from 1895 to 1900, among new admissions in 1902 and 1904, and among the total number from 1895 to 1908, to 1914, and to 1916.[1]

ness from accidents is that with more prompt and more skilled treatment of such cases on their occurrence, not only may threatened blindness be avoided, but the resulting blindness which cannot be prevented may be limited to one eye. This has been notably the experience with injuries to the eye in the European War.

[1] On figures respecting the Ohio School, see *Ohio State Medical Journal*, iv., 1908, p. 222. Of the first one hundred pupils in the Missouri School in the order of their enrollment in the periods 1896–1900 and 1905–1910 the respective numbers blind from accident were 14 and 16; from cataract, 3 and 1; from atrophy of optic nerve, 2 and 15; from ophthalmia neonatorum, 17 and 22; from trachoma, 14 and 13; from scrofula, 3 and 1; from scarlet fever, 3 and 0; from measles, 8 and 4; from meningitis, 8 and 7; and from miscellaneous and unknown causes, 28 and 20. Bulletin of Missouri Board of Charities and Corrections, 1910, no. 3, p. 60.

I. Causes of Blindness in Pennsylvania Institution

	1833–1853	1833–1862	1833–1866	1871–1873	1874–1876	1877–1879	1880–1882	1886–1888	1889–1891	1892–1894	1895–1897	1898–1900	1901–1903	1904–1906	1907–1909	1910–1912	1913–1915	1916–1917
Total	237	476	592	81	103	92	88	74	133	98	101	77	117	138	97	78	77	67
Congenital	7.6	9.7	13.0	23.5	21.4	16.7	9.1	21.6	17.9	17.4	20.8	23.4	25.2	26.1	21.6	.....	.....	.....
Accidents	18.1	18.9	19.1	21.0	21.4	13.0	23.9	8.1	13.5	14.3	10.9	9.9	6.0	8.0	10.3	16.3	8.9	17.9
Amaurosis	13.9	14.1	12.7	4.9	1.0	2.2	3.4	.....	.....	.....	1.0	.....	.....	.....	.....	.....	.....	.....
Ophthalmia	31.2	23.9	21.8	21.0	31.0	14.1	.....	40.5	25.5	21.4	13.8	2.6	4.3	1.6	2.1	2.6	.....	.....
Cataract	8.9	6.7	6.4	7.4	.....	1.0	.....	.....	1.3	1.0	.....	.....	0.8	.....	3.1	14.1	7.8	6.0
Atrophy of optic nerve	.....	.....	.....	.....	1.0	4.4	4.6	5.4	14.3	9.2	12.8	2.6	10.3	7.2	12.4	17.9	16.9	20.9
Ophthalmia neonatorum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.9	35.1	28.2	34.1	35.1	28.2	24.6	19.4
Trachoma	.....	.....	.....	1.2	.....	2.2	.....	.....	2.5	2.0	.....	1.3	.....	2.2	.....	.....	.....	.....
Smallpox	4.4	4.4	4.2	4.9	2.9	3.3	4.6	5.4	2.5	.....	.....	.....	.....	3.2	.....	.....	.....	.....
Scarlet fever	2.5	2.9	3.0	8.6	3.9	8.7	5.7	4.0	1.3	3.1	1.0	6.5	2.5	1.6	1.0	.....	.....	.....
Measles	2.5	2.5	2.5	.....	.....	.....	.....	.....	0.7	3.1	.....	2.6	.....	0.8	.....	.....	.....	.....
Scrofula	1.3	1.7	2.0	1.2	.....	2.2	3.4	.....	0.7	.....	1.0	.....	.....	.....	.....	.....	.....	.....
Glaucoma	.....	.....	.....	.....	1.0	.....	.....	.....	2.5	2.0	1.0	1.3	.....	2.2	.....	.....	1.3	.....
Meningitis	.....	0.4	0.5	2.5	2.9	3.3	1.1	.....	5.2	5.1	5.0	5.2	2.5	.....	3.1	.....	.....	.....
Choroiditis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.3	0.8	0.8	3.1	6.4	6.5	2.1
Keratitis	.....	.....	.....	.....	.....	1.0	.....	5.4	0.7	1.0	2.0	3.3	4.3	4.3	2.1	3.8	13.0	6.0
Retinitis	.....	.....	.....	.....	.....	.....	.....	2.7	.....	2.0	.....	1.3	1.7	.....	.....	6.4	2.1	7.5
Miscellaneous and unknown	9.6	14.8	14.8	3.8	19.5	27.9	44.2	6.7	11.4	18.4	21.8	3.6	13.4	7.9	6.1	10.3	18.9	20.1

II. Causes of Blindness in Ohio School

	1872	*1873–1875*	*1876–1878*	*1879–1881*	*1882–1884*	*1885–1887*	*1888–1890*	*1891–1893*	*1894–1896*	*1897–1899*	*1900–1902*	*1903–1905*	*1906–1907*	*1908–1911*	*1912–1913*
Total	111	118	121	149	119	120	150	134	139	191	180	132	117	194	94
Congenital	18.9	16.1	13.2	10.1	14.3	20.0	16.0	10.9	7.9	12.0	9.4	2.3	....	....	....
Accidents	10.8	10.2	11.6	8.1	7.6	15.0	4.6	15.0	8.6	7.3	13.8	17.4	8.5	7.3	3.2
Amaurosis	5.4	8.5	6.6	5.4	3.4	1.7	4.6	1.5	1.5	....	....	....	....	....	....
Cataract	3.6	6.8	3.3	9.4	5.9	3.3	4.6	7.4	0.7	3.1	8.1	6.8	15.4	6.7	9.6
Atrophy of optic nerve	....	....	1.6	1.3	....	5.0	5.3	9.7	6.5	5.2	9.4	13.6	24.7	19.9	18.1
Ophthalmia neonatorum	....	3.4	9.2	9.0	7.6	6.6	10.6	8.2	6.5	5.8	11.7	22.0	14.5	20.6	26.6
Trachoma	....	0.9	1.6	2.0	5.0	2.5	5.3	....	3.6	2.6	5.0	5.3	2.6	4.1	3.2
Glaucoma	....	1.7	....	....	0.8	0.8	...	0.7	2.2	1.0	1.7	1.5	1.7	1.5	1.1
Scrofula	....	2.6	3.3	2.7	3.4	7.5	....	1.5	....	4.2	....	....	....	....	....
Smallpox	0.9	1.7	5.0	0.7	0.8	0.8	....	...	....	....	....	....	....	....	....
Scarlet fever	0.9	0.9	0.8	0.7	4.2	3.3	0.6	1.5	2.9	0.5	....	....	....	....	....
Measles	2.7	2.6	2.5	2.0	1.7	0.8	..	...	0.7	1.5	....	....	....	....	....
Meningitis	5.4	8.5	0.8	2.0	1.7	2.5	..	3.0	2.9	1.5	1.1	...	....	....	....
Keratitis	....	....	1.6	....	0.8	....	..	...	0.7	1.5	5.0	10.6	12.0	10.3	13.3
Retinitis	....	....	....	1.3	0.8	0.8	0.6	....	0.7	1.0	....	0.7	1.7	3.1	....
Conjunctivitis	....	3.4	5.0	4.7	4.2	0.8	2.6	6.7	2.9	2.1	1.1	....	....	0.5	....
Miscellaneous and unknown	51.4	32.7	33.9	40.6	38.0	28.6	45.2	33.9	51.0	50.2	33.7	19.8	25.2	26.0	24.9

III. Causes of Blindness in New York State School

	1874	1884	1885	1886	1887	1888	1889	1890	1891	1892	1894	1901	1902–1904	1905–1907	1908–1910	1911–1913	1914–1916	1917
Total	270	174	186	163	159	140	182	201	229	243	254	134	75	65	76	79	110	27
Congenital	18.5	13.2	15.1	11.1	12.5	.....	.....	.....	.....	.....	.....	23.1	8.0	.....	.....	.....	.....	.....
Accidents	17.4	19.0	17.7	23.3	16.4	7.2	8.2	7.5	7.0	7.0	6.3	6.7	8.0	1.5	.....	1.3	1.8	3.7
Inflammation	32.2	21.8	22.0	19.6	30.8	.....	.....	.....	.....	.....	.....	7.4	2.7	.....	.....	.....	.....	.....
Cataract	8.2	5.2	5.9	5.5	7.5	8.5	9.3	10.5	10.0	10.3	10.6	6.7	13.3	15.4	9.2	19.0	16.4	22.2
Atrophy of optic nerve	.....	.....	1.1	.....	.....	11.4	14.3	14.9	15.3	16.0	17.6	3.0	13.3	18.5	19.8	20.3	19.0	18.5
Ophthalmia neonatorum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.2	25.3	27.7	22.4	20.3	17.3	26.0
Trachoma	.....	.....	.....	.....	.....	2.2	.....	.....	0.4	0.8	0.8	0.7	2.7	.....	.....	1.3	0.9	.....
Glaucoma	.....	.....	0.6	.....	.....	5.7	0.6	0.5	0.4	0.4	0.4	.....	.....	.....	.....	.....	.....	.....
Sympathetic ophthalmia	.....	.....	.....	.....	.....	12.2	11.0	10.5	10.9	11.1	11.0	.....	.....	13.9	4.0	9.0	3.6	.....
Blennorrhea ophthalmia	.....	.....	.....	.....	.....	20.0	17.5	16.9	17.0	16.0	17.0	.....	.....	.....	.....	.....	.....	.....
Keratitis	.....	.....	1.1	1.9	.....	6.4	.....	.....	.....	.....	.....	0.7	.....	7.7	4.0	6.3	7.3	7.4
Retinitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.7	1.4	3.1	2.7	1.3	1.8	....
Scrofula	1.9	1.1	1.6	.....	1.2	.....	.....	.....	.....	.....	.....	0.7	.....	.....	.....	.....	.....	.....
Smallpox	3.0	2.3	2.1	1.9	1.9	.....	1.1	1.0	0.9	0.8	0.8	.....	.....	.....	.....	.....	.....	.....
Scarlet fever	3.0	6.3	6.5	5.5	5.7	5.7	4.9	5.0	4.8	4.9	4.3	2.2	.....	.....	.....	.....	.....	.....
Measles	3.0	1.7	1.6	1.9	0.6	.....	1.1	1.0	0.9	0.8	0.8	2.2	.....	.....	.....	.....	.....	.....
Meningitis	.....	4.6	4.3	4.3	4.4	2.9	2.8	3.0	2.6	2.5	2.4	3.7	.....	.....	.....	.....	.....	.....
Miscellaneous and unknown	12.8	25.8	20.4	25.0	19.0	17.8	29.2	29.2	29.8	29.4	28.0	37.0	25.3	32.2	37.9	21.2	31.9	22.2

IV. Causes of Blindness in Iowa School

	1863	1869	1875	1882–1885	1886–1889	1890–1893	1894–1897	1898–1901	1902–1905	1906–1909	1910–1913	1913–1916
Total	70	182	153	123	150	154	154	135	137	102	116	90
Congenital	10.0	13.2	13.7	9.0	10.0	9.7	12.3	2.2	3.0	1.0	1.8	....
Accidents	14.3	21.9	5.2	17.1	12.7	13.6	10.4	10.4	0.7	2.0	0.9	....
Amaurosis	4.3	2.8	4.6	0.8	0.6	0.6	....	....	0.7	....	....	....
Ophthalmia	37.1	0.6	....	0.8	2.0	3.9	....	....	....	....	....	....
Inflammation	....	32.9	32.0	5.7	4.0	1.2	....	....	....	....	....	....
Cataract	....	3.3	2.0	3.2	2.6	0.6	4.7	5.9	16.2	6.9	12.2	3.3
Atrophy of optic nerve	....	....	....	0.8	2.0	0.6	1.3	3.0	15.4	14.7	20.7	11.1
Trachoma	....	....	....	1.6	6.6	4.7	1.9	1.5	7.4	5.9	3.5	1.1
Glaucoma	....	....	....	....	....	....	....	0.7	2.2	1.0	2.6	3.3
Sympathetic ophthalmia	....	....	....	0.8	....	3.9	0.6	3.6	3.7	5.9	7.0	....
Keratitis	....	....	....	....	....	....	0.6	0.7	4.4	5.9	5.2	4.4
Phthisis bulbi	....	....	....	....	....	....	....	4.4	5.9	7.8	13.9	16.7
Astigmatism	....	....	....	....	....	....	....	2.2	8.8	7.8	0.9	1.1
Scrofula	5.7	5.0	11.7	6.5	2.6	5.2	3.3	....	....	....	....	....
Smallpox	12.9	5.0	2.6	0.8	0.6	0.6	....	....	....	....	....	....
Scarlet fever	....	....	....	3.2	1.3	1.9	3.3	1.5	....	....	....	....
Measles	2.9	2.2	2.6	3.2	4.0	8.4	5.8	9.6	....	....	....	....
Meningitis	....	....	....	4.1	4.0	1.8	1.9	1.5	....	1.0	....	....
Miscellaneous and unknown	12.8	13.1	25.6	42.4	46.0	43.3	53.9	52.8	31.6	40.1	24.3	59.0

V. Causes of Blindness in Colorado School

	1883–1886	1883–1888	1883–1890	1883–1892	1883–1894	1883–1900	1883–1902	1883–1904	1883–1906	1883–1908	1883–1910	1883–1912	1883–1914	1883–1916
Total	23	29	46	60	77	149	165	178	195	213	232	240	252	266
Congenital	4.3	17.2	17.4	13.3	14.3	18.1	19.4	20.2	22.6	22.1	22.0	22.1	23.0	24.4
Accidents	8.7	13.8	17.4	23.3	19.5	20.1	18.8	18.5	16.9	16.4	16.4	17.9	17.4	21.4
Inflammation	21.7	20.3	8.7	18.3	14.3	10.8	9.7	9.0	8.2	6.6	7.7	7.5	7.1	6.8
Cataract	....	....	....	....	....	....	....	....	1.5	1.4	1.3	1.3	1.2	1.1
Atrophy of optic nerve	....	....	....	1.7	1.3	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4
Trachoma	....	....	....	....	....	2.0	2.4	2.8	2.6	2.3	2.1	2.1	2.0	1.9
Scrofula	....	....	4.3	1.7	2.6	1.3	1.2	1.1	1.0	0.9	0.8	0.8	0.8	0.8
Smallpox	8.7	6.8	6.5	6.7	7.8	4.0	3.6	3.4	3.1	2.8	3.0	2.9	2.8	2.6
Scarlet fever	4.3	3.4	2.2	1.7	2.6	3.4	3.0	2.8	3.1	3.3	3.0	2.9	2.8	2.6
Measles	17.4	10.2	4.3	3.3	6.5	5.4	4.8	4.5	4.1	4.7	4.3	4.2	3.9	3.8
Meningitis	8.7	3.4	4.3	5.0	5.2	4.7	4.2	4.5	4.1	4.2	3.9	3.9	3.6	3.4
Colds	....	....	8.7	6.7	6.5	3.4	3.0	2.8	2.6	3.3	3.0	2.9	2.8	2.6
Miscellaneous and unknown	26.2	24.9	26.2	17.2	19.4	26.2	29.3	29.8	19.7	31.6	32.1	31.1	32.2	28.2

VI. Causes of Blindness in Illinois School

	1894	1895–1900	1902	1904	1895–1908	1895–1914	1895–1916
Total	224	451	.44	74	699	848	875
Accidents	11.6	15.5	13.6	18.9	17.0	15.8	15.5
Cataract	8.4	7.1	6.8	6.7	7.6	8.8	8.6
Atrophy of optic nerve	12.5	10.8	13.6	24.3	12.0	12.3	12.5
Ophthalmia neonatorum	20.1	17.3	27.2	10.8	17.5	18.7	19.3
Purulent ophthalmia	2.7	2.0	....	2.6	1.8	1.5	1.5
Trachoma	9.7	9.1	....	2.6	7.4	6.6	6.5
Glaucoma	2.2	1.7	....	1.3	1.3	1.5	1.5
Keratitis	3.5	0.2	....	4.1	0.2	0.4	0.3
Retinitis	....	1.1	....	....	0.7	0.8	0.8
Choroiditis	....	3.8	4.5	2.6	3.2	2.7	3.1
Smallpox	2.2	2.0	....	....	1.3	1.2	1.0
Measles	....	2.6	....	....	2.3	2.2	2.2
Typhoid fever	1.8	1.3	2.3	1.3	1.4	1.2	1.1
Miscellaneous and unknown	23.3	25.5	32.0	24.8	26.3	26.3	26.1

It will have to be admitted at the outset that the statistics presented in the foregoing tables are far from satisfactory. They have not always been compiled according to scientific principles, and there has often been wanting reliable ophthalmic examination, this being especially true with respect to the earlier periods; and doubtless not a little of the apparent movement of certain diseases has been influenced by the method of reporting.[1] It is also to be borne in mind that the value of the figures for general comparative purposes is limited, for the reason that the diseases listed are almost entirely those which occur in the years of childhood or youth, with but little reference to those which affect the sight at later ages. Hence these statistics are to be accepted only with the utmost caution and with the full realization of their imperfections; and are to be regarded, not as definitive data, but as data which may throw some light, however small, on our problem.

It may be noted first that with respect to blindness resulting from accidents (including traumatism) a decrease on the whole is to be found in the schools in Pennsylvania,

[1] In many cases the parents of pupils have themselves been ignorant, and have been unable to give the exact cause of blindness. Frequently "born blind" has been considered a sufficient statement.

Ohio, New York, and Iowa, though little change is apparent in that in Illinois, and a slight increase in that in Colorado. This perhaps bears out the general conclusions of the census returns. It is also very possible, however, that in a certain proportion of the cases what were formerly set down to accidents have later been ascribed to more particular affections. In the disorder designated as sympathetic ophthalmia there are probably included varied complaints, but these are usually of an infectious nature, and from an eye already injured, whereby total blindness is induced or precipitated. This cause shows a decrease in the school in New York, but rather an increase in that in Iowa.

It is to be observed in the next place that in nearly all the general diseases to which blindness has been ascribed there has been, as in the census returns, a steady decline from the beginning, the proportion therefrom in some cases having been nil now for a number of years. With meningitis, during the period of its reporting, a slight decrease is observed in the schools in New York, Iowa, and Colorado, and a larger one in those in Pennsylvania and Ohio. No blindness is now set down to this disease except in the Colorado School, where reference is to all diseases from its founding. With smallpox likewise a decrease is found in all the schools. In those in Pennsylvania, Ohio, New York, and Iowa it has ceased to be recorded as a cause of blindness.[1] Scarlet fever is now similarly without representation in these four schools, though until recent years it showed rather little change in the proportion of blindness assigned to it. Measles, too, has been eliminated as a factor in the causation of blindness in the same schools that have relinquished the reporting of smallpox and scarlet fever, while at the same time a decrease is to be discovered in the two remaining schools. In all the schools where listed, scrofula has shown a decrease, being now unknown as a cause of blindness in any of them. Two other general diseases

[1] One-third of all blindness is said to have formerly been occasioned by this disease. "The Blind in the United States," p. 99.

are reported in single instances: colds in the Colorado School and typhoid fever in the Illinois School, in both of which diseases a decrease is to be detected.

That there is a falling off in the proportion of blindness caused by general diseases, which seems to-day practically everywhere the case, is no doubt in considerable part to be ascribed to the greater knowledge which we now have regarding the real causes involved, together with the increased care in specifying the particular nature of the trouble, and consequently to the substitution of more exact for looser terms. At the same time, as we have already observed, it is altogether likely that with better medical attention, and with better sanitary conditions in general, there is a substantial diminution in the amount of blindness from such diseases.[1]

With respect to diseases bearing more directly upon the loss of sight, or more intimately connected with the structure or functioning of the eye, the tendencies are of more varying character. With atrophy of the optic nerve, a decrease is seen in the school in Colorado, and little change in that in Illinois, but a steady increase in those in Pennsylvania, Ohio, and Iowa, and a lesser one in that in New York. Cataract, if taken alone, shows a somewhat similar movement. In the school in Colorado there is perhaps a decrease; in those in Pennsylvania, Ohio, and Illinois, little change; and in those in New York and Iowa, an increase. This disease, however, often manifesting itself at birth, is in many cases listed as congenital; and does in fact probably constitute a very large part of congenital blindness. Sometimes it is specifically designated as congenital cataract, though what proportion this is of all cataract or of all congenital blindness, we do not know.[2] When cataract and congenital blindness are considered together, there is found

[1] Reference has been made to the increased efforts in hospitals and elsewhere to treat in particular incipient cases of blindness.

[2] In many cases it has been difficult to determine whether certain cases should be listed as "cataract" or as "congenital." The figures for the two taken together are probably the most reliable.

to be a slight decrease of late years in the Pennsylvania Institution, but little change in the other schools. In congenital blindness by itself there is indicated an increase in the school in Colorado, but a decrease in those in Pennsylvania, Ohio, New York, and Iowa, in which schools it is not now separately enumerated. There is little doubt that in earlier years a number of cases of blindness have been set down as congenital, which in later times would have been distributed among other causes.

Glaucoma is another disease which has a very close relation to congenital blindness, though perhaps less so than cataract. In the schools in Ohio, Iowa, and Illinois it shows little change, while in the schools in Pennsylvania and New York it shows a decrease, now having reached total elimination in these two schools. Trachoma, an altogether acquired affection, presents on the whole a decrease in the schools in Pennsylvania and New York, in these not being reported now; little change in the schools in Colorado and Illinois; and a certain increase in those in Ohio and Iowa.[1]

In ophthalmia neonatorum a decline is found in the Pennsylvania Institution of late years, though the disease was not reported as such in early times; a steady increase from the beginning in the Ohio School, possibly because not so well reported at first; and little change in the schools in New York and Illinois, though in the former school it is enumerated only of later years.[2] With respect to this disease, however, we are fortunately able to offer other statistics, collected for very recent years. The following tables show, respectively, the number of pupils blind from it among the pupils enrolled in certain schools from the year 1910–1911 to the year 1917–1918, and the number blind from it among new admissions in certain schools from

[1] On a possible decrease in trachoma, see *Journal of American Medical Association*, lii., 1909, p. 2007; Report of Missouri School, 1916, p. 19. On a decrease in hospitals in New York City after the application of regulations to immigrants, see United States Public Health Service, Bulletin no. 19, 1914, p. 13. See also *New York Medical Journal*, xciii., 1911, p. 407.

[2] In Colorado and Iowa the disease has doubtless been largely included among others.

the year 1907–1908 to the year 1917–1918, as found by the National Committee for the Prevention of Blindness.[1]

PUPILS BLIND FROM OPHTHALMIA NEONATORUM AMONG TOTAL NUMBER ENROLLED IN CERTAIN SCHOOLS

	Number of schools	*Total number of pupils*	*Number blind from ophthalmia neonatorum*	*Per cent*
1910–1911....	16	2,018	521	25.8
1911–1912....	23	2,400	567	23.6
1912–1913....	21	2,327	684	29.3
1913–1914....	19	2,496	622	24.9
1914–1915....	30	3,334	740	22.1
1915–1916....	34	3,858	843	21.8
1916–1917....	34	3,336	796	23.8
1917–1918....	41	4,109	937	22.8

PUPILS BLIND FROM OPHTHALMIA NEONATORUM AMONG NEW ADMISSIONS IN CERTAIN SCHOOLS

	Number of schools	*Total number of admissions*	*Number blind from ophthalmia neonatorum*	*Per cent*
1907–1908....	10	290	77	26.5
1908–1909....	14	300	68	22.6
1909–1910....	13	325	67	20.6
1910–1911....	15	351	84	23.9
1911–1912....	24	415	88	21.2
1912–1913....	21	386	88	22.7
1913–1914....	19	428	84	19.6
1914–1915....	28	602	91	15.1
1915–1916....	35	666	127	19.0
1916–1917....	33	647	119	18.4
1917–1918....	40	614	90	14.7

In both these tables there is apparent an appreciable, though not a large, decrease, within the last few years, in the proportion of blindness resulting from ophthalmia neonatorum.

In the list of diseases in our preceding tables there are several which are probably more or less akin to ophthalmia

[1] *News Letter*, Dec., 1918; National Committee for the Prevention of Blindness, Publications no. 9, 1918. See also Report, 1915, p. 9; 1916, p. 19; 1917, p. 13; *Outlook for the Blind*, ix., 1916, p. 120; x., 1916, p. 58; xi., 1918, p. 93; Report of Perkins Institution, 1916, p. 16; 1917, p. 41. In certain cities there have been periods of a year, or even longer, when no child has lost its sight through this disease. See *News Letter*, April, 1916; National Committee for the Prevention of Blindness, Publication no. 13, 1917 ("Sight Saving a Civic Duty"); Louis Stricker, "Blindness in Hamilton County," 1918, pp. 83, 98. We have already seen that among new admissions in certain schools there are now no pupils reported as blind from this cause. See *ante*, p. 162.

neonatorum. What is designated as purulent ophthalmia is little else, but in evidence later in life. It appears in several schools, though reported mainly of late years, especially in that of Illinois, where it manifests small change. Hardly more different is blennorrhea ophthalmia. At one period a large proportion of blindness in the school in New York was attributed to it, but now none. The affection enumerated as "inflammation" is doubtless in large part of the same character as ophthalmia neonatorum. To it was assigned a considerable proportion of blindness in the schools in New York and Iowa at first, but now none; while in the school in Colorado a decrease is also seen. Perhaps very similar to "inflammation" is the disease called by the general term "ophthalmia," which at one time was charged with a large amount of the blindness in the school in Pennsylvania, though of later years with but little, and which in this school, as well as in that in Iowa, has finally disappeared.

There are several other special eye diseases which are enumerated as playing a greater or less part in the causation of blindness. The first of these is that designated as amaurosis, which seems to be a general term for blindness the exact nature of which cannot be determined, and which includes disorders of the retina, conjunctiva, and optic nerve. This shows a decrease to the vanishing point in the schools in Pennsylvania, Ohio, and Iowa. The next disease is retinitis, which shows, though reported only of late years, no great change in the schools in Pennsylvania, Ohio, New York, and Illinois. In keratitis, likewise with but little reporting at first, there is observed on the whole an increase in the schools in Pennsylvania, Ohio, New York, and Iowa, and a decrease in the school in Illinois. Choroiditis is also enumerated rather of recent years, and is found to be without any great change in the schools in Pennsylvania and Illinois. Conjunctivitis, for some time on the wane in the Ohio School, has now ceased to be specially reported. In the school in Iowa two affections occasioning visual incapacity

are recorded of recent years, one of which, phthisis bulbi, seems to be on the increase, and the other, astigmatism, to be on the decrease.[1] In addition to the diseases mentioned, there are a number included among miscellaneous and unknown causes, such as uveitis, iritis, ulceration of the cornea, "sore eyes," neuralgia, and others, which appear occasionally, and are chargeable, singly, with only a small amount of blindness.[2]

With respect to injuries to the eye a special source of information is to be found in the reports of certain States regarding industrial accidents, mainly the result of workingmen's compensation laws. Unfortunately, so far as the uniformity and regularity of such statistics are concerned, there is reference only to very recent years. In the following table are presented the number of injuries to the eye and the number of permanent injuries to it, often involving its loss, so far as they are reported, in the States of California, Illinois, Maryland, Massachusetts, Washington, West Virginia, and Wisconsin, from 1912 to 1917.

[1] The proportions for certain of the affections, as inflammation, choroiditis, conjunctivitis, and others, are not given for schools in which they are very small.

[2] Very practical indication of a belief that blindness among children in particular is not increasing in relation to the general population, but is rather decreasing, is found in the circumstance that in the projection of new plants for the education of blind children, little enlargement of existing facilities is planned, and sometimes even a reduction.

NUMBER OF INJURIES TO THE EYE IN CERTAIN STATES

	1912	1913	1914	1915	1916	1917
California:						
All eye injuries	210	233	.....	5,231	6,636	11,210
Permanent injuries to the eye	57	62	.....	172	175	202
Illinois:						
All eye injuries	.....	.....	.....	.....	.....	913
Permanent injuries to the eye	.....	79	52	48	55	39
Maryland:						
All eye injuries	.....	.....	.....	1,299	2,653	3,384
Permanent injuries to the eye	.....	.....	.....	13	19	37
Massachusetts:						
All eye injuries	.....	4,331	6,563	6,634	3,562	.....
Permanent injuries to the eye	.....	47	77	104	108	.....
Washington:						
All eye injuries	131	367	364	330	516	751
Permanent injuries to the eye	55	109	93	.....	100	132
West Virginia:						
All eye injuries	.....	.....	.....	.....	.....	.....
Permanent injuries to the eye	.....	.....	39	49	71	109
Wisconsin:						
All eye injuries	.....	.....	.....	.....	.....	.....
Permanent injuries to the eye	.....	.....	.....	41	41	53

On their face, these figures seem to indicate a great increase in nearly all the States both in the number of eye injuries of all kinds and in the number of injuries to the eye of a permanent character. Such, however, is hardly the correct interpretation to be put upon them. There is probably but reflected a wider and more thorough reporting of industrial accidents in the course of the years, the reporting of later years being presumably also of a much more accurate character. This supposition is borne out by the fact that in accidents of nearly all other kinds similar increases are manifested. Note is, moreover, to be taken of general industrial growth. At the same time our figures give no sign of any reduction in the number of injuries to the eye occasioned in industry in the United States. Nor is there denoted how far the present safety movements are having an effect on the situation. For any real determination of the matter we shall probably have to wait some years.

As to one form of accidents, however, we have figures of a more encouraging sort. These are in respect to accidents

occurring in Independence Day celebrations. As a result of efforts to regulate, if not to eliminate, the use of dangerous fireworks on this occasion—to have a "safe and sane Fourth"—injuries to the eye have shown a constant decrease of late years, in fact now becoming so few that they have ceased to be recorded. In the following table are shown the number of cases of the loss of one eye and the number of cases of the loss of both eyes, or of total blindness, occurring on the Fourth of July from 1903 to 1916, as found by the American Medical Association.[1]

INJURIES TO THE EYE FROM INDEPENDENCE DAY CELEBRATIONS

	Number of cases of loss of one eye	*Number of cases of blindness*		*Number of cases of loss of one eye*	*Number of cases of blindness*
1903...	75	10	1910....	33	7
1904...	61	19	1911....	26	8
1905...	106	25	1912....	21	8
1906...	72	22	1913....	22	2
1907...	75	12	1914....	13	3
1908...	93	11	1915....	11	1
1909...	36	16	1916....	10	0

One further method remains for shedding light upon our question whether or not blindness is increasing relatively to the general population. This is in the opinion of professors of diseases of the eye in certain of the leading medical schools of the country, obtained through letters of inquiry. So far as an opinion is stated, this is that blindness is tending to decrease.[2]

[1] The figures have been published in August or September of each year in the *Journal of the American Medical Association*. Since 1916 the compilation has been discontinued for the reason that, as we are advised, the purposes held in view have been largely accomplished.

[2] Letters were sent to professors of diseases of the eye in Johns Hopkins University, University of Pennsylvania, Jefferson Medical College, Columbia University, Harvard University, University of Chicago, University of Michigan, and Northwestern University. In three of the replies, it was the opinion that blindness was decreasing. This is, according to Dr. H. F. Hansell of Jefferson Medical College, "because of the protection of eyes of men engaged in dangerous occupations; because of the prevention of ophthalmia neonatorum in infants by the Credé method; and because of the careful fitting of glasses to the defective eyes of children." One reason stated by Dr. Arnold Knapp of Columbia University is that "the more active

With all the evidence now before us which it is possible to present, we may draw certain deductions regarding our prime question whether blindness is increasing or decreasing. Though the returns of the census enumerations of the blind as a whole in different years are not of a character to enable us to ascertain with definiteness the movement of blindness, yet from an examination in respect to age and in respect to age of the occurrence of blindness among those reported it seems hardly to be doubted that the number of the blind in younger life has steadily decreased of late years; and if there is no reason to suspect an increased operation of the causes of blindness among persons in adult life, we have very decided evidence of a diminution in general. With respect to accidents and injuries to the eye, it seems hardly other than likely that, despite all our industrial growth, with the attention now being directed to the prevention of industrial accidents in particular, and with the increasing introduction of safety appliances, there is being effected a gradual reduction in the number of injuries to the eye, and consequently of cases of blindness therefrom—an opinion that perhaps finds support only partially from the statistics which we have, but perhaps no less demonstrably from other well-founded evidence. For that blindness which is ascribed to general diseases, we may believe that there is a rather considerable diminution resulting from more skilled medical treatment and from improved sanitary conditions—a view generally supported by our statistics. For the same reasons we may conclude that some of the local eye diseases which cause loss of sight are being sim-

treatment of the most frequent sources of blindness, namely, the blindness resulting from infection at birth, which is slowly being better controlled throughout the civilized world. Secondly, it is due to the protection to the eyes in the occupations which are dangerous to the eyesight." The view of Dr. Samuel Theobald of Johns Hopkins University is "based upon the fact (a) that much more careful and exact 'refraction' work is done than was formerly the case; (b) that the importance of recognizing and dealing promptly with gonorrheal infections of the eyes at birth has been brought home to the public and to the medical profession in recent years; (c) that owing to the precautions taken against accidents, fewer eyes are lost from this cause than formerly; and (d) that we are able to cope more successfully with syphilitic eye diseases since the introduction of salvarsan."

ilarly affected. The statistics in respect to certain of these do not, it is true, indicate a perceptible decrease; but in others, especially trachoma and ophthalmia neonatorum of recent years, an appreciable abatement is apparent. In that blindness found to be of hereditary origin, there would seem to be a residuum which may persist for an indefinite period; but with the progress of the science of eugenics, we may hope that eventually there may be brought about some reduction of this form of blindness also. Hence, viewing the situation in its entirety, we seem justified in affirming a conviction that blindness has within a measurable time shown on the whole a decrease, although this decrease cannot at all be called a very material one; and that the chances are that in the future this decline will continue, perhaps at an accelerated rate.

CHAPTER XI

ORGANIZED MOVEMENTS FOR THE PREVENTION OF BLINDNESS

With respect to the possibilities of the prevention of blindness there remains one further matter to call for attention. This is the organization of special movements for the attainment of such a result. Of so great consequence has the question come to be regarded that we have a conscious gathering of forces in the United States looking to and working for the reduction of blindness to its lowest possible extent, with its eventual elimination. There is in fact involved one of the most significant as well as one of the most important undertakings of the day for the proper disposal of pressing social problems.

The movement for the prevention of blindness may be said to have had its inception largely in the concern aroused from the prevalence of ophthalmia neonatorum.[1] It was upon this disease in nearly all cases that the primary stress at the outset was laid; and it was only in time as a rule that the movement was extended to include other causes. Reference has already been made to the efforts that have in particular been put forth respecting loss of sight from infant blindness, and also from trachoma and from accidents.

To the medical profession is owed the first debt for the lending of thought to the matter of the prevention of blindness. Initial action appears to have been taken by the

[1] "When we realize that a large proportion of the children attending our schools for the blind need never have been in such institutions, if proper care had been given in infancy, it behooves us to stimulate and further this campaign for the abolition of blindness. Such efforts must result in true economy to the state, and in immeasurable gain to the sum of human happiness in the restoration to joyous usefulness of lives which would otherwise be doomed to wretchedness and unhappiness." *Outlook for the Blind*, i., 1907, p. 29.

New York Medical Society in 1887 when a committee was appointed to investigate the question of blindness from ophthalmia neonatorum and to make report thereupon. Other medical bodies followed, that with the largest influence being the American Medical Association. From these organizations interest gradually spread to lay organizations. Finally, there were brought into being special bodies with the sole object of devoting consideration to the problem. Attention to the question of the prevention of blindness is now found manifested by the medical and nursing professions, by organizations of a general nature, by organizations particularly concerned with the blind, and by organizations formed expressly for the purpose.[1]

The body created for dealing with the problem on a nation-wide scale is that which is at present known as the National Committee for the Prevention of Blindness. As a result of early medical interest, there was established in 1906 the New York Committee for the Prevention of Blindness, which in 1908 was adopted by the New York Association for the Blind. In 1913 connection with the latter body was severed, and the committee became the New York State Committee for the Prevention of Blindness. In 1910 there was organized along similar lines the American Association for the Conservation of Vision. Because of the calls for advice and assistance from various sections of the country, and because of the need generally felt for a body which should be in a position to serve the country as a whole, consolidation was effected in 1915 between these two organizations, with the resultant inauguration of the National Committee for the Prevention of Blindness, having headquarters in New York City.[2] The stated aims of the Committee are as follows:

[1] On the organized movement for the prevention of blindness, see *Science*, xiv., 1889, p. 268; xviii., 1891, p. 772; *Chicago Medical Recorder*, xxxvii., 1915, p. 316; Proceedings of National Conference of Charities and Correction, 1909, p. 91; Report of United States Commissioner of Education, 1912, p. 334; Russell Sage Foundation, Bulletin, 1910, no. 1.

[2] The Committee was incorporated in 1917. The governing board is composed of thirty members, with an advisory board of specialists, including physicians and

1. To endeavor to ascertain, through study and investigation, any causes, whether direct or indirect, which may result in blindness or impaired vision.
2. To advocate measures which shall lead to the elimination of such causes.
3. To disseminate knowledge concerning all matters pertaining to the care and use of the eye.

The Committee serves as a clearing house and bureau of information, renders expert advice, publishes and distributes literature of different kinds, conducts lectures and exhibits, secures desirable legislation, and coöperates with various organizations.[1]

In certain individual States there have been formed special societies or associations for the prevention of blindness, all organized subsequently to the formation of the first society in New York. Such are at present found in New York, Maryland, Kentucky,[2] Illinois, California, and North Carolina. By them educational campaigns are conducted, treatment secured for incipient cases of blindness, and other beneficial service rendered.[3]

Among organizations devoted to the interests of the blind there is full recognition of the import of the movement for the prevention of blindness. With associations, particularly the larger ones, the prevention of blindness is often a foremost aim. To public commissions, work in this direction is generally entrusted as a specific duty. By both these bodies no small results have been accomplished, some of them even employing special nurses or conducting special

laymen interested in the public welfare. The annual dues of contributing members are $2; of subscribing members, $5; of sustaining members, $10–$50; of associate members, $50–$100; and of donors, larger sums. Grants are made by the Russell Sage Foundation and by the Rockefeller Foundation. Expenditures amount to about $20,000 a year.

[1] Nearly three-quarters of a million pieces of literature have now been distributed by the Committee and its predecessors. A special periodical, known as "The News Letter," is published bi-monthly.

[2] The work in this State has been mainly concerned with trachoma. Special contributions are received for a "Mountain Fund" for the bringing of needy sufferers under suitable treatment.

[3] Contributions are gratefully received by these societies, including aid in the form of membership dues of different kinds.

clinics to render their efforts the more effective.[1] The special schools for the blind, too, are having a part in the undertaking, their greatest service perhaps being in the dissemination of literature and in the giving of advice to parents.[2]

The interest of medical bodies in the saving of sight is now a rather pronounced one. In the American Medical Association there is, in connection with the Council on Public Health and Instruction, a sub-committee of the Section on Ophthalmology, known as the Committee on the Conservation of Vision, which by publications and otherwise seeks to acquaint the profession and the general public with the matter. In many of the State medical societies there are similar committees, usually consisting of an ophthalmologist, an obstetrician, and a public health officer, with now and then local committees. In medical periodicals frequent notice is given. Among organizations of nurses larger attention is being devoted to the preservation of sight, particularly of the new born, the American Association of Public Health Nursing now having a special committee on the subject. Hospitals, both general and special, and notably the eye infirmaries of large cities, are likewise alive to the situation, attaching more and more importance to follow-up work. On the part of public health officials, State and local, the saving of sight is receiving increasing consideration.[3]

[1] In a few States there is required report of all cases of seriously impaired vision coming to the knowledge of physicians.

[2] In one or two schools, notably that of Arkansas, there are special appropriations for the purpose.

[3] In connection with the great explosion in Halifax, Nova Scotia, in December, 1917, causing possibly about six hundred injuries to the eye, the loss of one eye in nearly two hundred cases, and the loss of both eyes in over two score, there was undertaken a noteworthy campaign for the prevention of blindness, the National Committee for the Prevention of Blindness, American workers for the blind (including special committees of the American Association of Instructors of the Blind and the American Association of Workers for the Blind), and American eye specialists coöperating with the American Red Cross. See *News Letter*, Feb., April, 1918; *Outlook for the Blind*, xi., 1918, p. 77; *Survey*, xxxix., 1918, p. 675; *Simmons Quarterly*, Feb., 1918; *American Journal of Ophthalmology*, i. (n. s.), 1918, p. 223; Proceedings of American Association of Instructors of the Blind, 1918, p. 55.

Finally, concern in the prevention of blindness, or in the conservation of vision, is being increasingly manifested on the part of certain general organizations. This is in considerable measure the outgrowth of the present movement for the prevention of accidents, or "safety first," which in itself constitutes one of the most hopeful signs in the situation. The aim is largely an educational one, or to awaken the public to a realization of the dangers likely to be met with, and to instill a spirit of caution, the campaign being carried on by means of leaflets and posters, lectures and exhibits, and notices in the public press. In all undertakings of the kind no small share of attention is bestowed upon the risks to which the eyes are exposed, and upon the need of their proper care and use. The movement receives added strength from the creation of such bodies as the National Safety Council, with a very large membership, and with local organizations in different States and cities, and which prepares many bulletins, posters, and other literature, and the Conference Board on Safety and Sanitation, representing the National Founders' Association, the National Association of Manufacturers, and the National Metal Trades Association, which engages in much educational work. In New York City there has been established the Safety Institute of America, which has various devices for protection against eye accidents. By a number of industrial establishments, either in conjunction with the organized movements, or independently of them, efforts are being put forth on an enlarging scale to warn employees of perils. By some insurance companies campaigns are conducted to inculcate lessons of prudence. By certain public agencies, especially State departments relating to labor, and most of all by industrial accident boards, the matter of the prevention of injuries in industry is being given greater and greater stress.[1]

[1] By several of the agencies enumerated, both special agencies for the blind and general agencies, "museums of safety" are maintained, to show devices for the protection of the sight.

Apart from the matter of the prevention of accidents to the eye, there has been stimulated a concern in the conservation of vision as a whole in certain general organizations. In such bodies as the National Education Association, the American Federation of Labor, and the Illuminating Engineering Society, there have been created special departments or committees on the subject. Such is the case also among some civic clubs, especially women's clubs. By public authorities also, especially those having to do with education or with the care of children, increased attention is being devoted to the movement.[1]

[1] In Kentucky in 1915 planks were inserted in the platforms of the three leading political parties, favoring measures for the prevention of blindness from trachoma.

PART III

PROVISION FOR THE EDUCATION OF BLIND CHILDREN

CHAPTER XII

THE EDUCATION OF THE BLIND PRIOR TO ITS INTRODUCTION INTO THE UNITED STATES

The lot of the blind in human history has ever been a sad one. The most that they could usually expect at the hands of their fellow-men has been pity. Among the nations generally, including the ignorant and barbarous, there was likely to be evoked compassion for the condition of the sightless folk who lived in their midst. Now and then a less indulgent treatment was extended, more than one instance of harsh usage of them being found. Among such highly civilized peoples as the Greeks and the Romans there was for the most part indifference to the fate of the blind, and occasionally actual cruelty was displayed towards them. With not a few of the ancient, and even of the modern, races the affliction of the blind was looked upon as a divine visitation; and in various forms was the question asked: "Who did sin, this man, or his parents?"

The rôle of the blind man was ordinarily that of the beggar, and his due was the commiseration and alms of the kindly-disposed, with perhaps here and there the maledictions of the evil-hearted.[1]

From Bartimæus to Lesueur—the first pupil of Haüy—the blind were left to procure a precarious subsistence begging at the entrance of temples, in the churchyards, or by the wayside. Their infirmity was considered a sufficient cause to prevent them from participating in the activities of life and from enjoying the blessings of instruction or the benefits of industry. They

[1] One useful service of the blind in past times was in acting as guides in journeys across deserts, and in leading people through the streets of cities when fogs lay heavy—somewhat after the manner of the blind girl in "The Last Days of Pompeii." In Japan the blind are said at one period to have been employed to memorize the history of the nation.

were even allowed at times to become the objects of harsh and inhuman pastime in the hands of ignorant and vicious people.[1]

It is only after the advent of the Christian era that any pronounced change is found in the general attitude towards the blind. To the churches where charity was dispensed they gladly came, and here they could expect to inspire a lively sympathy in the breasts of worshippers, from which might spring aid of a more substantial kind. In the course of time the Church is found displaying more direct concern in the blind, and attempting on a greater or less scale to provide for their material wants.

In the fourth century a hospice was established for the blind by St. Basil at Cæsarea in Cappadocia, with guides furnished for them. In the century following a refuge was offered to the sightless by the hermit St. Lymnæus at Syr in Syria, special cottages being erected for their use. About 630 a retreat, or typhlocomium, was set up at Jerusalem for their benefit. Not long after a kind of hospice was created for them by St. Bertrand, bishop of Le Mans, which was probably at Pontlieu in Northwestern France. In the eleventh century William the Conqueror, in expiation of his sins, as was believed, founded among other institutions hospices for the blind and other infirm persons at Cherbourg, Rouen, Bayeux, and Caen.

In 1178 at Memmingen, Bavaria, Duke Welf VII. created a home for certain of the blind, in which it seems possible that some sort of instruction was given. In 1260 there was established the most important institution for the blind so far brought into existence. This was at the time of the Crusades when a number of the Crusaders returned to Western Europe with their sight destroyed, either as a result of punishment inflicted at the hands of the Saracens or as the result of diseases contracted in their expeditions.

[1] M. Anagnos, "Education of the Blind," 1882, p. 4; Report of Perkins Institution, 1881, p. 53. "The post of the blind has always been by the highway in the humble attitude of the beggar; their dwelling place has been the almshouse." *North American Review*, xxxvii., 1833, p. 21.

For these an asylum was created at Paris by Louis IX., or St. Louis, known as the *Hotel des Quinze-Vingts*, in which several hundred blind persons found a refuge. Later other persons, including women, who had lost their sight from various causes were admitted. For the support of this home, begging was encouraged on the part of the inmates, direct gifts also coming to it from the charitably inclined. In 1350 a similar but smaller institution was founded at Chartres by King John the Good. Like hospices were established in other countries of Europe as well as in France, notably at Bruges in 1305, and at Ghent in 1370. Brotherhoods for the service of the blind were also organized in a number of cities, including Chartres, Caen, Châlons, Meaux, Padua, Frankfort, and Hull.

During all this time there is met little reference to attempts to impart instruction to the blind. No doubt there were not a few individual efforts here and there to give this, mostly by word of mouth, and especially to such as had become blind some years after birth when there had already been opportunity to acquire something of an education after the manner of other children, and to those of the classes who were privileged to have an education at all. It is not until we reach the sixteenth century, when learning was receiving attention on all sides, that, so far as we have recorded accounts, the light of knowledge begins really to dawn for the blind.

Among the first efforts with which we are acquainted to bring instruction to the sightless was that of Girolimo Cardano (1501–1576), the physician of Pavia in Italy, in the sixteenth century. Having become interested in the deaf and their education, he conceived the idea that the blind might be taught through the sense of touch, and attempted to procure to some extent instruction for them. About the same time, if not in fact a little before, a blind man, Peter Pontanus, a Fleming, published a book regarding the blind. In 1646 there appeared in Italy an anonymous publication, "*Il Cieco Afflito e Consolato*," in France called

"*L'Aveugle Affligé et Consolé.*" In 1670 another treatise on the blind was given to the world, this by Padre Lana Terzi of Brescia in Italy, who had likewise previously written of the deaf. Not long after we find two instances in Switzerland of instruction afforded to blind persons.[1]

Accompanying all the endeavors to convey instruction to the blind were attempts to provide a means whereby they could be made to read by the pressure of their fingers upon objects in relief—that is, to contrive a device whereby printed words could be made known to them. In the desire to secure a system of tangible characters for use by the blind, many were the experiments that were tried.[2] Among the most important of these in former days were the ventures of Francisco Lucas in Spain early in the sixteenth century, of Rampazetto in Italy later in the same century, and of Pierre Moreau in France towards the middle of the seventeenth century.[3]

We now come in our accounts of the instruction of the blind to a name that is forever to shine afar in the narrative of efforts to aid those deprived of the sense of sight—the name of the man with whom the real work in their education commences—Valentin Haüy. This man lived in Paris, France, towards the close of the eighteenth century, and was drawn to the notice of the blind by certain of the

[1] It may be recorded here that at nearly all times there have been instances of blind authors, many of whom are well known. Most of such probably became blind in later life. Cicero tells of a blind man who had been educated. In Milan there was a blind painter and writer, Gia Paolo Lomazzo, who died in 1592.

[2] The various efforts to devise a system of raised print for the blind are considered at length in Chapter XXVI.

[3] In the late years of the seventeenth, and in the early years of the eighteenth, century there was increasing attention towards the blind and their condition on the part of men of learning, though this was rather of speculative interest than of practical measures for their benefit. In England John Locke in his "Essay upon the Human Understanding" made references to the intellectual processes of the blind. In Germany Leibnitz referred to the blind and to the condition of their minds. In France Condillac in his "*Essai sur l'Origine des Connaisances Humaines*" and "*Traité des Sensations*," considered the effect of blindness upon the powers of perception. Diderot and Rousseau both became interested in the blind and served to arouse public concern in them. The Abbé Deschamps who had taken an interest in the education of the deaf turned his attention late in the eighteenth century to the blind also, of whom he wrote.

abuses to which they were subjected.[1] Moved with pity at their fate, he began to wonder if they might not be educated and their condition changed for the better. All the information that was possible regarding them he collected, especially as to previous attempts to give them instruction. Finding that the processes hitherto employed were scant, consisting of little more than a ciphering frame and a few raised characters made out with the utmost difficulty, he determined to set about the task of imparting instruction as best he could, hoping as he went along to come upon the necessary measures.[2] In 1784 he discovered a blind boy, François Lesueur by name, begging on the streets. This boy Haüy took as his first pupil, offering him pay as compensation for his lost occupation. Upon Lesueur were begun the experiments in the way of instruction. The great difficulty lay in finding a means of conveying the printed word in such fashion as to be apprehended by his sightless pupil; and upon this Haüy labored most industriously. In time a means came to light, and the education of the blind was assured.

In such manner began the first school to be established in the world for the blind.[3] To it was given the name of *Institution National des Jeunes Aveugles*. The *Societé Philanthropique* took the school under its patronage, entrusting to Haüy twelve blind children, whom it agreed to support. At the results achieved the city of Paris was overjoyed, and many donations found their way to the new institution. The Royal Academy of Sciences made examination of the work, especially of the newly found raised print, and gave its approval; while Haüy was himself received by the King.

[1] Haüy's first interest in the blind arose from the sight at a fair of a number who were dressed in grotesque fashion and were pretending, with notes placed before them, to play instruments of music, in order to make discordant noises and thus to draw a crowd to the house of their patron.

[2] Haüy had been much impressed with the public performance of a blind girl in a musical recital, Theresa von Paradis, the gifted blind girl of Vienna, who had been taught by special means.

[3] The institution founded at Memmingen, Bavaria, several centuries before, to which reference has been made, was probably more of an asylum for the blind than anything else, though some instruction may also have been afforded in it.

In 1786 Haüy published his "*Essai sur l'Education des Aveugles.*" In 1791, after the outbreak of the Revolution, the school was taken over by the state, and continued thereafter to be a public institution.[1]

The work of the education of the blind had now been inaugurated in Europe, and it only remained for the other countries to follow the example set by France. This was accomplished in most of them within a few years, Great Britain being the first to follow. In 1791 a school was opened in Liverpool; in Edinburgh and Bristol in 1793; in London in 1799, and another in 1801; in Norwich in 1805; in Dublin in 1809; and later in other cities. The early years of the nineteenth century also saw schools started in most of the capitals of the Continent: in Vienna in 1804; in Berlin and Stockholm in 1806; in Milan in 1807; in Amsterdam, Dresden, and Prague in 1808; in St. Petersburg and Zürich in 1809; in Copenhagen in 1811; and in Brussels, Lausanne, and Breslau in 1816. In the course of the ensuing years schools were founded in various other cities of Europe. By the time the task of instruction was to pass on to America, which was towards the close of the second decade of the nineteenth century, the work was already upon an established footing in the Old World.

[1] Haüy continued for some years after the troublous days of the Revolution to support the school at his own expense. When in 1801 it was incorporated with the *Hotel des Quinze Vingts*, he resigned and opened a private school of his own, which he called "*Le Musée des Aveugles.*" In 1806 he was invited to St. Petersburg to found a school, which invitation he accepted, on his way establishing a school at Berlin also. In 1817 he returned to France, there to die five years later, having well earned the title of "the Father and Apostle of the Blind."

NOTE TO CHAPTER XII.—For accounts of the early work for the blind before and after it was taken up in America, the following may be referred to: Valentin Haüy, "Essay upon the Education of the Blind" (translation), 1786, reprint, 1894 (England); Dr. Guillié, "Essay on the Instruction and Amusements of the Blind" (translation), 1819 (England); J. G. Knie, "Guide to the Proper Management and Education of Blind Children" (translation), ed. 1876 (England); Abbé C. Carton, "Establishments for the Blind in England" (translation), 1838 (England); Thomas Anderson, "Observations on the Employment, Education, and Habits of the Blind," 1837 (England); Charles Baker, "Contributions to the Publications of the Society for the Diffusion of Useful Knowledge," 1842, p. 49 (England); B. B. Bowen, "A Blind Man's Offering," 1857; Statements of Education, Employments, and Internal Arrangements of the Asylum for the Blind (Glasgow), 1844; James Gall, "Historical

Sketch of the Origin and Progress of Literature for the Blind," 1834 (England); Alfred Payne, "The Education of the Blind and the Deaf and Dumb," 1863 (England); "Trimsharp's Account of Himself," 1873, p. 54; R. H. Blair, "Education of the Blind" (read at Meeting of National Association for the Promotion of Social Science), 1876 (England); William Artman and L. V. Hall, "Beauties and Achievements of the Blind," 1854; W. H. Prescott, "Biographical and Critical Miscellanies," 1845, p. 53; William Chapin, "Report on the Benevolent Institutions of Great Britain and Paris" (Ohio School), 1846; Henry Hendrickson, "Out from the Darkness," 1879, p. 53, and *passim;* Robert Meldrum, "Light on Dark Paths," 1891 (England); F. A. Goodale, "The Literature of Philanthropy," 1893, p. 170; J. W. Welch, "Abilities and Achievements of the Blind," 1905, p. 268; W. H. Levy, "Blindness and the Blind," 1872, p. 77 (England); J. R. Friedlander, "Observations on the Instruction of Blind Persons," 1833; J. T. Sibley, "The Blind, Their Characteristics and Education," 1891; A. C. Smith, "The Orphan Blind Girl," 1865; H. A. Fuller, "Where Dark Shadows Play," 1890, p. 50; S. F. C. Little, "The Education of the Blind" (read before Wisconsin Teachers' Association), 1879; Transactions of Royal Scottish Society of Arts, 1895, p. 10; "The Blind Made Happy," 1837; M. Anagnos, "Education of the Blind," 1882; E. E. Allen, "Education of Defectives," in "Education in the United States" (monograph, no. 15), 1900, p. 18; Memorial Tribute to the Character and Virtues of Dr. Joseph H. Johnson, 1893; L. E. Richards, "Two Noble Lives," 1911, p. 30; Memoir of Samuel Cridley Howe, 1876, p. 13; Proceedings at Celebration of the 100th Anniversary of the Birth of Samuel Gridley Howe, 1902, p. 14; E. E. Allen, "Historical Sketch of the Life and Labors of J. R. Friedlander," 1903; Maurice de la Sizeranne, "The Blind as Seen through Blind Eyes" (translated by F. P. Lewis), 1893, p. 52; W. H. Illingworth, "History of the Education of the Blind," 1910, p. 4 (England); James Gray, "What Is Doing for the Blind," 1862 (England); C. F. Fraser, "Fighting in the Dark," 1879, p. 17 (Canada); Robert Maguire, "The Deaf and Dumb and the Blind," 1863 (England); E. R. Scott, "History of the Education of the Blind Prior to 1830," 1916 (England); Transactions of International Congress on Hygiene and Demography, 1892, iv., p. 224 (England); E. G. Dexter, "History of Education in the United States," 1904, p. 473; In Memoriam, John Dennison Russ, 1881; F. B. Sanborn, "Dr. Samuel Gridley Howe the Philanthropist," 1891, p. 125; J. V. Armstrong, "History and Prospects of Tennessee School," 1898; Penny Cyclopedia, 1835, iv., p. 515; Chambers's Encyclopedia, 1861, Art. "Blind" (England); National Encyclopedia, 1847, Art. "Blind" (England); English Encyclopedia, 1859, Art. "Blind"; Encyclopedia Britannica, ed. 1911, Art. "Blind"; Catholic Encyclopedia, 1909, v., p. 306; Nelson's Encyclopedia, 1917, ii., p. 136; Preliminary Report of 8th Census, 1860, 1862, p. 41; Population of the United States, from 8th Census, 1864, pp. lxx., 687; American Encyclopedia of Ophthalmology, 1916, i., p. 249; viii., p. 6372; Reference Handbook of the Medical Sciences, 1913, ii., p. 96; Cyclopedia of Education, 1879, p. 85; Cyclopedia of Education, 1911, i., p. 395; *New England Magazine,* iv., 1833, p. 177; xv. (n. s.), 1897, p. 673; *Southern Literary Messenger,* ix., 1843, p. 6; *North American Review,* xxxi., 1830, p. 66; xxxvii., 1833, p. 20; l., 1840, p. 520; *Western Monthly Magazine,* iii., 1835, p. 150; *National Magazine,* viii., 1856, p. 540; x., 1857, pp. 33, 121, 247, 419; *Southern Bivouac,* iv., 1885, p. 407; *Harper's Magazine,* xxxv., 1867, p. 767; *Hogg's Instructor,* vi., 1856, p. 130; *National Review,* x., 1860, p. 75; *Canadian Monthly Magazine,* xviii., 1880, p. 171; *Catholic World,* xlviii., 1889, p. 671; *Scribner's Magazine,* xii., 1892, p. 373; *Pedagogical Seminary,* ix., 1902, p. 127; *Literary and Theological Review,* iii., 1836, p. 266; *De Bow's Review,* xvii., 1854, p. 435; *Hibbert Journal,* viii., 1909, p. 142; *Good Words,* xxi., 1880, p. 703; *Mentor,* ii., 1892, p. 288; *Edinburgh Review,* xcix., 1854, p. 61; *Edinburgh Magazine and Review,* ii., 1774, p. 673; *Quarterly Review,* cxviii., 1865, p. 430; *Chautauquan,* xv., 1892, p. 65; *Museum of Foreign Literature, Science, and Art,* xxiv., 1834, p. 230; *Monthly Review,* cxxxii., 1833, p. 275; *American Journal of Education,* i., 1830, p. 370; i. (n. s.),

1856, p. 551; iii., 1857, p. 477; iv., 1857, p. 127; *Home and School*, ii., 1873, p. 594; *New England Pictorial Magazine*, March, 1881, p. 45; *American Annals of Education*, iii., 1833, p. 577; vi., 1836, p. 252; *Lens*, ii., 1904, p. 2; Address of the Trustees of the New Institution for the Education of the Blind to the Public, 1833; Account of the New York Institution for the Blind, 1833; Report of United States Commissioner of Education, 1871, p. 445; 1872, p. 433; Proceedings of Association to Establish a School for the Education of the Blind in Pennsylvania, 1833; Report of Trustees Appointed to Collect Information Relative to the Education of the Blind (Ohio), 1836; Ceremonies at Laying of Corner Stone of New York State School for the Blind, 1866; Commemoration of 70th Anniversary of Founding of North Carolina School, 1910, p. 21; Origin and History of Georgia Academy for the Blind, 1887; Proceedings of 1st Reunion of Officers, Teachers, and Pupils of New York State School, 1879, p. 66; History of Illinois School, 1893; Report of Massachusetts Board of Charity, 1864, p. 68; Report of Illinois Board of Public Charities, 1876, p. 129; Report of Pennsylvania Board of Public Charities, 1870, p. 148; Report of Tennessee Board of Charities, 1903, p. 34; Indiana Bulletin of Charities and Correction, June, 1912, p. 206; Bulletin of Iowa Institutions, ii., 1900, p. 453; xiii., 1911, p. 230; Proceedings of American Association of Instructors of the Blind, 1876, p. 11; 1892, p. 62; 1910, *passim;* Proceedings of American Association of Workers for the Blind, 1911, p. 10; *Talks, Tales, and Public Opinion*, Nov., Dec., 1901; Jan., Feb., 1902; Report of Perkins Institution, 1871, p. 29; 1874, pp. 10, 33; 1876, p. 89; 1881, p. 49; 1882, p. 117; Iowa School, 1891, p. 10; Tennessee School, 1891, p. 11; Ohio School, 1855, pp. 17, 25; 1893, p. 141 (5th reunion of former pupils, 1890); Pennsylvania Institution, 1883, p. 8; 1901, p. 47; Arkansas School, 1870, p. 8; New York Institute, 1845, p. 14; Maryland School, 1913, p. 72; New York State School, 1867, p. 43.

CHAPTER XIII

HISTORY OF THE EDUCATION OF THE BLIND IN THE UNITED STATES

Founding of the First Schools

The education of the blind in the United States formally began with the opening of the first school. Before this there were no doubt, as in Europe, certain occasional instances of instruction essayed in some small way by the families or friends of the sightless; but such instruction could hardly have been other than a very meagre one, and could have seriously affected but a very few. For the great number of the blind, children as well as adults, educational facilities were not to be had.

Upon the establishment of schools for the blind in Europe in the late years of the eighteenth and the early years of the nineteenth century, it might be expected that at a not distant date systematic instruction would be undertaken in America, in a soil equally congenial. In the opening, furthermore, of the first schools for the deaf in the United States in the year 1817 and the ensuing years, attention to the educational needs of the blind was likely to become the more pronounced; and it was only a question of time until efforts should follow to create schools for them as well.

Before the close of the eighteenth century a faint interest in the blind and in the possibilities of their education was to be discerned, amounting, however, to little more than a speculative notice.[1] Before the following century was far

[1] One of the earliest references in this country to the blind is found in the *Massachusetts Magazine* in 1791 (iii., p. 99). This was "an account of Dr. Henry Moyes, the blind philosopher," describing a lecture by Dr. Bew before the Literary and Philosophical Society of Manchester, England. In the *American Museum* in 1792 (xi., pp. 27, 103) there was a review, of a speculative character and dealing with the

advanced, concern in the blind began to make itself felt in more than one quarter, and at the same time to take on a more practical character. Towards the end of the second decade of the century this had reached the stage where it seemed expedient that public inquiry should be set on foot to determine the number and condition of the blind, which was usually to embrace the deaf as well—such constituting the first real legislative recognition of the blind in the country. In 1819 an enumeration was authorized in New Hampshire, in 1821 in Pennsylvania, in 1825 in Vermont, and a few years later in Connecticut and Massachusetts. Further attention was directed to the blind from their inclusion for the first time in the returns of the United States census of 1830.

During the progress of these investigations, and in part as a result of them, an interest was awakened in the blind which resolved itself into the consideration of the actual establishment of schools for their instruction. This interest was strengthened by the tidings that now came to America of the institutions in successful operation in Europe, with the prompting of the query why similar undertakings might not be brought into being in this country as well. Signs of promise for the creation of schools first manifested themselves in three cities on the Atlantic seaboard—Boston, New York, and Philadelphia.

In the early years of the nineteenth century in the city of Boston and in its vicinity serious inquiry began to be made on the part of certain persons as to the possibilities of the education of the blind, and the feasibility was discussed of organizing a movement for the purpose.[1] Little,

powers of the blind, of an essay by Dr. Bew, entitled "Observations on Blindness and the Employment of the Senses to Supply the Loss of Sight," taken from the Memoirs of this Society. In the *Port Folio* of Philadelphia in 1806 (i. [n. s.], pp. 52, 132) appeared an account of Thomas Blacklock, the blind poet.

[1] Letters on the advisability of the creation of a school appeared in the *Columbian Centinel* of Boston, Jan. 17, 1825, in the *Boston Recorder*, Feb. 29, 1829, and in the *National Philanthropist and Investigator*, March 12, 1829. An account of the school at Vienna was given in the Boston *Athenæum* in 1820 (vi., p. 221), which was taken from the London *Monthly Magazine*, Oct., 1819, and in the *New England Galaxy*, Feb. 27, 1827. In the *New England Galaxy*, Aug. 15, 1828, the schools in Paris and

however, was accomplished till 1826 when a strong impetus was given to the movement upon the return to the city of a physician, Dr. John D. Fisher, from Paris, where in the course of his studies he had had occasion to visit the school founded by Valentin Haüy, with the work of which he had been much impressed. The agitation in favor of the establishment of a school was now redoubled, and more and more encouragement was lent to the project. In 1827 a sum of money was raised to collect information both in regard to the number of pupils to be affected and in regard to the proper steps to be taken for the starting of a school.[1] A number of philanthropic citizens became enlisted in the enterprise,[2] and several meetings were held. Finally, a gathering was invited of all those who were interested in the matter, which was held on February 10, 1829, at the Exchange Coffee House. Here the question of a school was taken up at length, and a report made of the conditions calling for it. It was estimated that there were four hundred blind persons in Massachusetts, and fifteen hundred in the New England States. So urgent was the need felt to be that the outcome of the meeting was the actual organization of a school. Before another month had elapsed, the legislature was asked to incorporate this as the New England Asylum for the Blind, later to be known as the Perkins Institution and Massachusetts School for the Blind, which it did unanimously and without debate, at the same time directing that the number and condition of the blind in the State should be ascertained. In order that the State might itself have a hand in the management of the new institution, the board of trustees was made to include the Governor of the State, the Lieutenant-Governor, the President of the

Liverpool are described. In the *Boston Commercial Gazette* the work of the school in Paris is mentioned, and the need of an institution in America presented (quoted in *American Journal of Education*, i. [n. s.], 1830, p. 79.) See also *Christian Register*, Boston, March 21, 1829; *Christian Teachers' Manual*, Boston, ii., 1829, p. 258; *Classical Journal and Scholars' Review*, Boston, i., 1830, p. 188.

[1] Report of Perkins Institution, 1874, pp. 10, 33.

[2] It is interesting to note that one of the early organizers was William H. Prescott, the historian, himself blind.

Senate, and the Speaker of the House of Representatives.

To take charge of the school and to conduct its operations, and to secure pupils for it, there was called Dr. Samuel Gridley Howe, who had already shown himself warm in the espousal of human causes.[1] Before the actual opening, it was decided that he should proceed to Europe and learn the methods there employed for teaching the blind. This Dr. Howe did in 1831, visiting the schools in Edinburgh, Paris, and Berlin.[2] Though apparently not finding everything in these places worthy of emulation, he saw much to aid him in his future work. On his return to America, he brought with him two blind teachers to assist him, one from the Edinburgh school and one from the Paris school.

The school in Boston was now ready to assume its task. Temporary quarters were found in the house of Dr. Howe's father, later being transferred to a rented building. In August, 1832, the school received its first pupils, six in number, and was now started on its appointed way.[3]

In 1830, or two years before the opening of the school, the legislature of Massachusetts made an appropriation for its benefit, consisting of $1,500, which was the unexpended balance of a previous grant for the deaf, this being the first appropriation of public money in America directly for the benefit of the blind. The year following the inauguration of the school an exhibition of pupils was given in the presence of the legislature; and so favorable was the impression made by them that a new appropriation of $6,000 was forthwith voted, on the condition that twenty poor blind children of the State should be educated free. The school, however, did not rely solely upon the state for its support. It sought assistance from private sources as well. Pupils were taken for exhibition to a number

[1] Dr. Howe had just returned from Greece, where he had gone to offer his services for the liberation of that country.

[2] *American Annals of Education*, i., 1831, p. 445.

[3] *Ibid.*, iv., 1833, p. 93; *New England Magazine*, iv., 1833, p. 248.

of cities to solicit contributions from the public, while entertainments of various kinds were given to raise funds.[1]

Though the new school had its location in Massachusetts, it was not for the children of this State alone that it was designed. It was intended to receive children from all the New England States, and in fact to be a common school for them. Very soon after the school had commenced its operations these States began to make arrangements for the education of their blind children in it, with the appropriation of a certain amount for each pupil, Massachusetts itself also adopting the plan; and this policy has been largely continued to the present by all of them. Connecticut and New Hampshire took action in 1832, the year the school was started; Massachusetts and Vermont, in 1833; Maine, in 1834; and Rhode Island, in 1845.[2] One other State, considerably removed from New England, also made provision for the instruction of its blind children at this school for a time. This was South Carolina, which began the policy in 1843.[3] At the same time pupils whose expenses were

[1] One notable fair at Faneuil Hall netted over $11,000, while similar generosity was met with in other cities. Soon after the school was started, a house valued at $25,000 was offered by one whose name was subsequently given to it, on condition that $50,000 in addition be raised, which was done in less than a month. On the beginnings of this school, see "The New England Asylum for the Blind," 1829; Address of Trustees of New England Institution for the Education of the Blind to the Public, House Document, no. 25, 1833; *Penny Magazine*, i., 1833, p. 44; *Boston Weekly Messenger and Massachusetts Journal*, Apr. 4, June 6, 1833; *Boston Inquirer*, March 9, 1833; *Christian Watchman*, of Boston, March 29, 1833, Nov. 27, 1839; *New England Magazine*, iii., 1832, p. 171; iv., 1833, pp. 154, 504; *American Annals of Education*, iv., 1834, p. 3; *Religious Magazine*, Boston, iii., 1833, p. 160; *Monthly Review* (England), cxxxii., 1833, p. 275; *North American Review*, l., 1840, p. 520; *New England Palladium and Commercial Advertiser*, Boston, Jan. 22, 1835; *New England Pictorial Magazine*, March, 1881, p. 45; Maude Howe and Florence Howe Hall, "Laura Bridgman, Dr. Howe's Famous Pupil," 1903, p. 1; Life and Journals of Samuel G. Howe, by Laura E. Richards, 1900, ii., p. 11; Memoir of Samuel Gridley Howe, 1876; Proceedings at Celebration of 100th Anniversary of the Birth of Samuel G. Howe, 1902; Report of Perkins Institution, 1870, pp. 80, 92; 1882, p. 11; Brief Summary of History of Perkins Institution, 1909.

[2] See Report of Perkins Institution, 1834, p. 6; 1844, p. 5; *Rhode Island Educational Magazine*, i., 1852, p. 145; ii., 1853, p. 3. The first appropriation of Connecticut was of $1,000, to continue twelve years; of New Hampshire, $500; and of Vermont, $1,200.

[3] Report of Perkins Institution, 1846, p. 5; 1847, p. 4.

paid from private means were sent to the institution from various parts of the country.[1]

Great as is the distinction of being the initial school for the blind to be organized in the United States, to which the institution at Boston is properly entitled, this is really to be placed but very little ahead of the schools in New York and Philadelphia. In point of fact, to the school in New York belongs the honor of being the first to begin actual operations. This school, the New York Institution for the Blind, later called the New York Institute for the Education of the Blind, came into being largely as the result of the interest on the part of some citizens of the city in certain blind children in the almshouse, who had attracted attention as early as 1827. Correspondence followed with the school in Edinburgh, Scotland, regarding the methods to be employed in instruction; and in 1831 a petition was presented to the legislature of the State, praying for the incorporation of the institution, which was at once done. On March 15, 1832, the school threw open its doors. It was under the direction of Dr. John D. Russ, and had but three pupils, all coming from the almshouse, which number was shortly afterwards increased to six. In 1834 the State began to allow the sum of $160 for each pupil admitted, which was later enlarged. Many private contributions were made to the school, which were added to by the proceeds from fairs and exhibitions of pupils.[2] In 1836 the State of

[1] The work of Dr. Howe was not confined to the school in Massachusetts. He proved a circuit rider for the establishment of schools in other States. With his pupils he appeared before the legislatures of a number of States, besides visiting many cities, to urge their creation. Nor did his work stop with the blind. His labors for the feeble-minded were almost as notable. He was interested in the uplift of all the afflicted classes. Indeed, America owes a very great debt to this remarkable man.

[2] It was one Samuel Woods who had first observed the children in the almshouse, and Dr. Samuel G. Ackerly who inserted an advertisement of an intention to incorporate a school. Dr. Russ also independently conceived the idea of educating the blind, and visited the almshouse to ascertain the number there, being ignorant of the purposes of the other two men. In 1833 there was an exhibit of pupils in the City Hall. Annual fairs given by ladies from 1833 to 1838 netted the school the sum of $9,075. A single fair at Niblo's Theatre in 1833 realized $2,173. A building was furnished at a small rental, and later sold at a low price. See *American Annals of Education*, ii., 1830, p. 303; Account of New York Institution for the Blind, 1833;

New Jersey began to send pupils to it.[1] Private pupils also were admitted.

The school in Philadelphia, the Pennsylvania Institution for the Instruction of the Blind, was started in 1833, or one year after those in Boston and New York. Efforts had, however, been made several years sooner for the establishment of a school. The Society of Friends had been interested in the education of the blind as early as 1824; and in this year as well as the two following ones consideration was given to the project by them and by other citizens. In 1833 several meetings were held in the rooms of the American Philosophical Society, which culminated in the organization of the institution. On the opening of the school, Dr. Julius R. Friedlander, a native of Germany, was appointed principal, he having already gathered several pupils in his own home the year before for the purpose of teaching them. Funds were realized from fairs, from subscriptions, and from other means, pupils being taken to a number of counties for exhibition. After a visit of pupils to the legislature of the State, the school was incorporated. This body also offered an appropriation of ten thousand dollars on condition that double this sum be secured from private sources, which was done in a short time.[2] Pupils were also sent to neighboring States, with the result that provision was made for the education of blind children at this school by Delaware in 1835, by New Jersey in 1836, and

Report of New York Institute, 1836, p. 31; 1845, p. 11; C. M. Sawyer, "History of Blind Vocalists," 1852, p. 45; In Memoriam, John Dennison Russ, 1881; "Fanny Crosby's Life Story by Herself," 1903, p. 30.

[1] The first appropriation was of $2,000.

[2] In 1836 a ladies' fair netted the school $9,039. It was an early hope that the school might benefit from a legacy for a local hospital for the lame and the blind. See Proceedings of Association for the Establishment of a School for the Education of the Blind in Philadelphia and Pennsylvania, 1833; Report of Committee Appointed to Inquire into the Best Mode of Extending the Benefits of Instruction to the Blind, Pennsylvania, 1837; Constitution, Charter, By-laws, and Documents Relating to the Pennsylvania Institution, 1837, p. 12; Constitution, By-laws, and Rules of Pennsylvania Institution, 1856, p. 29; J. R. Ingersoll, Address Delivered at Opening of Wills Hospital for the Indigent Blind and Lame, 1834; *Westchester* (Pennsylvania) *Advocate*, Aug. 9, 1834; E. E. Allen, "Historical Sketch of the Life and Labors of J. R. Friedlander," 1903. See also issues of *Philadelphia United States Gazette* and *Poulson's American Daily Advocate* of the period.

by Maryland in 1837.[1] Pupils supported by private means were, as in the case of the preceding institutions, received at the school.

The fourth school to be created was in Ohio in 1837, after a visit to the State of pupils from the institution in Massachusetts, and after agitation on the part of the medical society of the State.[2] The establishment of this school marked a new policy in the course of the education of the blind in the country. The schools henceforth, with the exception of that in Maryland, of one or two in the New England States, and of a second one in Pennsylvania, were to be entirely under the direction of the State, and not under the auspices of private societies, though in not a few cases such bodies were to be instrumental in their initiation.

Virginia came next in 1839 with a school for both the blind and the deaf, after an exhibit of pupils from Massachusetts. In Kentucky in 1842 the establishment of a school was brought about after similar appearances of pupils from the schools in Ohio and Massachusetts, though there had been attempts in this direction a few years earlier. This school was during its first year a private one, after which it was taken over by the State. In Tennessee a private school was opened in 1843, likewise after exhibits of pupils, which two years later was adopted by the State. In 1847 a school was established in Indiana after a visit from pupils of the Ohio and Kentucky schools. In Illinois a private school was opened in 1848, after exhibits of pupils, which the following year came under the control of the State. A school was created in Mississippi in 1848, and one in Wisconsin in 1849, the latter having been planned several years sooner. In 1850 a private school was started in Missouri, which the succeeding year was taken over by the

[1] The first appropriation was for 10 pupils, the cost of each of whom was not to exceed $200.

[2] See Report of Ohio School, 1856, p. 14; Perkins Institution, 1837, p. 12. A census of the blind of the State was made by this medical body in 1834, when 250 were found. Hope for the establishment of a school had been expressed in 1835 by the *Western Monthly Magazine* (iii., p. 150).

State. In 1851 a school was established in Georgia, though some blind children had been educated since 1846 in the school for the deaf; and a department for the blind was created in such school in North Carolina. In 1852 a private school was undertaken in Iowa, to be adopted by the State the following year. A school under private auspices was commenced in Maryland in 1853. In 1855 a department for the blind was opened in the school for the deaf in South Carolina. In 1856 a school was established in Texas, and a department for the blind was created in the school for the deaf in Louisiana. Thus a little after the middle of the nineteenth century, or twenty-five years after the opening of the first school, institutions for the blind were in existence in nineteen of the States of the Union. In the next quarter of a century schools were established in ten other States; and since that time in a considerable number of the remaining ones.

Views of Early Schools and Aims and Methods of the Founders

In the creation of the schools for the blind in America the chief appeal was to the heart. It was usually only necessary to invoke commiseration for their lot to secure the desired action. At the prospect of bringing light to the darkened minds of the blind, there were few who could not be moved; and in the compassion for their condition and in the hope of emancipating them from it, the purse-strings of legislatures and of public assemblages were willingly loosened. This was especially true when there were exhibitions of pupils from the schools just started: the spectacle of the poor sightless creatures and of what was being done for them was nearly always sufficient to stir the beholders to a favorable response.

On the part of the public in general there was thus usually appreciation of the work which the schools proposed to do, and often keen sympathy with and ready support of the efforts both to bring them into being and to place them in

successful operation. Yet, as was after all to be expected, in large part because of the novelty of the undertaking, there was, despite ardent assurance to the contrary, not a little doubt expressed in certain quarters as to the feasibility of the movement. In some instances the purpose of the schools was but dimly seen, or was far from being understood. Just what was to be the practical end of the education contemplated was not clear; nor was it evident how the blind were really to be benefited, or in what their advantage was to consist.

More than one school experienced something other than an easy task in overcoming the objections to their work and in dissipating the conceptions regarding them. On the inception of one institution there were some who "laughed at the project as a wild undertaking;" while "even the benevolent looked upon it as a well-meant, but utopian scheme." [1] By this school the situation was discovered to be thus:

> At the time the institution was incorporated, so strong was the impression that the enterprise was one, which, though it might produce some curious and ingenious results, was not of practical utility, that it was a matter of some difficulty to find among our intelligent and benevolent citizens twenty gentlemen who were willing to be appointed its first board of managers.[2]

Odd opinions were held as to what the schools were intended for. In regard to the school just referred to—

> Many supposed it to be an Infirmary for the treatment of the eye,—that its inmates would necessarily be subjected to needless surgical operations, involving much personal suffering, with no apparent object perhaps, beyond the advancement of Surgical Science;—others assumed that it was an Asylum for the indigent Blind, erected for the purpose of testing by actual experiment the lowest possible sum upon which its subjects might be fed and clothed.[3]

[1] New York Institute. Report, 1845, pp. 14, 22.
[2] *Ibid.*, 1841, p. 5.
[3] *Ibid.*, 1845, p. 5.

In other instances uncertainty was expressed as to whether the blind could actually be instructed; and it was only the achievements of such pupils themselves that dispelled the misgivings on this score.

As a result of this attitude, the actual creation of schools was now and then delayed, and public support of them temporarily held back. The *North American Review* [1] of the time tells how people were willing to extend assistance to the schools "as soon as their practicability was proved." Legislatures were sometimes incredulous as to the advisability of creating schools, and required evidence of the success of the venture before guaranteeing aid.[2] In one or two States they were so dubious as to the scheme that before they would agree to assist, they demanded a continuation of a year or two, so as to have a demonstration to their satisfaction.[3] In order to win public favor, the promoters found it necessary to move very carefully. In one case—

> It was thought best to proceed in the most cautious, prudent, and economical manner until the results should completely vindicate the policy and utility as well as the beneficence of the philanthropic enterprise.[4]

It was in fact in not a few instances the proof of the mental capabilities of the blind that won for them their schools. When books were placed in their hands, and when it was discovered that they really could be taught to read,

[1] l., 1840, p. 520.

[2] When a private school was started in Missouri, an appeal was made to the legislature for assistance. The reply from this body was that there were "only a few blind persons in Missouri, the United States census to the contrary notwithstanding;" and that "it would be time, labor, and money lost to teach the blind to read or do anything else." Nothing daunted, however, by this reception, the promoters of the school borrowed a piano, and secured five volumes of the Bible in raised print; and with these weapons, and in company with several blind children, invaded the halls of the legislature. This proved too much for the members of that body, and haste was made to grant the desired appropriation. Missouri School, Story of the Blind, 1901.

[3] Notably the schools in Kentucky and Missouri.

[4] Kentucky School. Report, 1851, p. 3. On general misapprehensions regarding the education of the blind, see also Report of Indiana School, 1862, p. 42; Michigan School, 1856, p. 34; 1866, p. 24; Kentucky School, 1882, p. 7; *New England Telegraph*, ii., 1836, p. 236.

whatever lurking misgivings there had been were swept away, and only delighted satisfaction remained. The matter has thus been stated:

> It is certain that the simple reading by blind children of a few lines from a book aided more to create and endow the institutions now existing than all other things put together.[1]

With the education of the blind now a demonstrated possibility, there were on all sides only gratification and joy. Towards the schools everywhere the feeling became one of warm interest and affection. Their future was believed to be bright with promise; and in many places there appeared enthusiastic friends of the new venture, who watched with happy eyes the first steps in the work of the instruction of the blind. As the full meaning of this education dawned on the public, the rejoicing was doubly pronounced. In the schools the blind were not only to receive enlightenment and to become unqualified citizens of the state, but they were to be raised from their condition of sorrow and dependence, and lifted to a position never before occupied by them. Just as there had been general commiseration for the plight of the blind, so now hopes were high that the gladdening light in all its radiance might be brought to minds that had been in darkness.

In various phrases is expressed the sadness of the lot of the blind, and the results to be derived from education; nay, the powers of language are strained to find words befitting the situation. In an early message of the Governor of Georgia in regard to the school in that State, the condition of the blind is thus referred to:

> These sightless objects are entitled to the sympathy and aid of every patriot and philanthropist. . . . To these, earthly existence is one long dark, monotonous night, without a glimmering star to enlighten its gloom.[2]

[1] Report of Perkins Institution, 1846, p. 19. See also *Poulson's American Daily Advertiser*, of Philadelphia, Jan. 10, 1834.

[2] Report of Georgia School, 1856, p. 8.

In a sermon preached shortly after the opening of the school in Virginia the feelings of the blind man are thus characterized: "The crushing sense of his blindness fills all his hours with hopeless misery." [1] In an early report of the Illinois School the state of the blind is described as "mental and physical torpor in which they have previously passed their lives." [2] In an early report of the Ohio School theirs is said to be "a gloomy and comfortless and despondent condition." [3] In a report of the Georgia School the blind are said to be "doomed . . . to a dreary, blank, helpless, and unmeaning existence." [4] A Pennsylvania paper at the time of the establishment of a school speaks of the blind as "pining away in gloom and despondency." [5] The *New England Magazine* in the early days speaks of the blind as men "whom misfortune had condemned to grope their way darkling through time to eternity;" [6] and of "the dark blank of their existence." [7] A writer in the *American Annals of Education* of the same period considers the blind to be in the "dark tomb of the world," [8] and declares that their minds are "shrouded in darkness," and that without education they are to "spend all their remaining years in gloom and night." [9] The *Literary and Theological Review* affirms the blind to be "eating the bitter bread of dependence." [10] In a report of the Kentucky School they are said to be persons "upon whom the blighting hand of misfortune had fallen so heavily"; and who were "doomed for life to ignorance, dependence, and misery." [11] In an "Address to the Citizens of the State of Delaware" in 1834

[1] J. H. Tyler, "Duties and Advantages of the Education of the Deaf and Dumb and the Blind," 1843.
[2] Report, 1856, p. 7.
[3] Report, 1837, p. 8.
[4] Report, 1866, p. 5.
[5] *Westchester Advocate*, Aug. 13, 1834.
[6] iv., 1833, p. 504.
[7] iv., 1833, p. 178.
[8] ii., 1833, p. 579.
[9] vi., 1836, p. 252.
[10] iii., 1836, p. 266.
[11] Report, 1851, p. 3.

on the need of making provision for education, the "dark and desolate minds of the blind" are spoken of, who are "condemned through life to darkness." [1] In a report of the Tennessee School it is stated that the blind are "doomed to a life of idleness and miserable dependence," and that "their moral sensibilities become obtuse, and their intellectual and physical powers enfeebled"; [2] and in another, that "the dungeon is still about" the blind man.[3] In an address in connection with the opening of the Pennsylvania Institution it is said that from the blind "the cheery beams of hope are excluded, and in their stead prevail the clouds and darkness of despair." [4] In the *Western Monthly Magazine* the blind are asserted to live in a "land of shadows and silence." [5] In an early pamphlet regarding the Pennsylvania Institution the state of the blind is mentioned as being one of "hopeless darkness, wretchedness, and misery." [6] In an "Address to the Inhabitants of New York" before the opening of a school for the blind in this State, the aim is expressed as "a desire to recover them from degradation and ignorance." In an early report of the New York Institute the lives of the blind are said to be "spent in darkness and gloom." [7] In an early account in Tennessee they are affirmed to be "shrouded in darkness." [8] In an Ohio account the blind are believed to be in "a worse than physical darkness." [9] In an early report of the Pennsylvania Institution the "helplessness, gloom, and degradation" of the blind are referred to, who are thought to have upon them "the stamp of infirmity which even pity had inflicted upon their helplessness." [10] In an "Address to the

[1] Pp. 5, 7.
[2] Report, 1845, p. 11.
[3] *Ibid.*, 1857, p. 12.
[4] Address Delivered on Opening of Wills Hospital, 1834, p. 11.
[5] iii., 1835, p. 151.
[6] "Observations on Means Employed in Pennsylvania Institution," 1833, p.4.
[7] Report, 1841, p. 6.
[8] Report of Board of Charities, 1903, p. 39, quoting from "History of Davidson County."
[9] Proceedings of Reunion of Officers and Pupils of Ohio School, 1860, p. 1.
[10] Report, 1835, p. 7.

Public" at the beginning of this school, the blind are called an "unfortunate class of human beings," upon whose "condition helplessness and misery are generally attendant." [1] In a report of the Perkins Institution mention is made of the "thick gloom" in which the blind dwell, who on the loss of sight are "at first like one buried alive." [2] In a Kentucky report the blind are affirmed to dwell "in physical, intellectual, and mental darkness," and to experience "a living death." [3] In the "Methodist Almanac," in connection with the beginning work in Indiana, it is declared that "to be blind is to dwell in a living tomb." [4]

From the existing condition of the blind, it was the schools that were to bring the great deliverance. The notes in which this is promised reach a high strain. The "rescue," the "emancipation" of the blind, their being raised to "the ranks of their fellow-men"—such are some of the phrases in which the lofty purpose is expressed. Thus the *Christian Examiner* of Boston at an early date states regarding the blind that by instruction their "rational powers have been awakened as it were from a deep sleep," that the "fetters on their souls" have been removed, and "the bright world of knowledge and of love" which otherwise was "forever barred" was opened to them, and that "the spirit is rescued from bondage, restored to its native functions, and filled with the ecstasy of thought." [5] In an Ohio report it is declared that "the once dark minds are cheered by the light of science," and that "their souls are irradiated." [6] In a report of the Kentucky School the blind after education are found to be "rejoicing in the light and gladness shed around them." [7] In a report of the Arkansas School it is

[1] Report, 1834, p. 7.

[2] Report, 1849, pp. 9, 10, 15. In another report of this school the blind man without education is thus spoken of: "He has before him the dreary prospect of a life of dependence upon relations and friends. Beyond that lies the cheerless scene of old age and a death bed in an almshouse." *Ibid.*, 1849, p. 11.

[3] Report, 1847, p. 7.

[4] 1863, p. 9.

[5] xxviii., 1840, p. 359.

[6] Report, 1839, p. 12.

[7] Report, 1847, p. 7.

said that by education the blind "are raised from a state of helpless and hopeless idleness and dependence to a life of joyous activity and usefulness." [1] The *Western Monthly Magazine* in speaking of the results of the first schools declares that "the progress of the Eastern institutions . . . has surpassed all expectations," and that "our reward shall be the spectacle of thousands raised to competence and responsibility." [2]

In these schools, moreover, not only was mental enlightenment to be afforded, but very practical ends were to be served. In them the pupils were to be given a training in industry, so that they could be sent out into the world able to support themselves. In most cases from the very beginning attention was called to this feature of the work of the schools. In an early report of the New York Institute we find that the purpose was not "yet solely to render cheerful and happy those whose previous lives had been

[1] Report, 1868, p. 8.

[2] iii., 1835, pp. 165, 160. On views of the blind without education, and the results promised therefrom, see also J. R. Ingersoll, Address Delivered at Opening of Wills Hospital for the Indigent Blind and Lame, Philadelphia, 1834; Address of Trustees of New England Institution for the Education of the Blind, 1833; Constitution, Charter, By-laws and Documents Relating to Pennsylvania Institution, 1837; Address of Board of Managers of Pennsylvania Institution, 1837; J. R. Friedlander, "Observations on the Instruction of Blind Persons," 1833; J. R. Friedlander, Address to the Public at the First Exhibition of the Pupils of the Pennsylvania Institution, 1833, p. 5; *United States Gazette*, Philadelphia, Nov. 22, 1833; *Poulson's Daily Advertiser*, Philadelphia, Nov. 22, 1833; "Observations on Means Employed in the Pennsylvania Institution," 1834; "The New England Asylum for the Blind," 1829; New York Institution for the Blind, Brief Account of its Organization, Character, and Prospects, 1843; *New England Magazine*, iv., 1833, p. 177; *American Annals of Education*, ii., 1833, p. 579; vi., 1836, p. 252; *Western Monthly Magazine*, iii., 1835, p. 150; *American Institute of Instruction*, 1836, p. 3; Report of Trustees Appointed to Collect Information Relative to the Education of the Blind, Ohio, 1836; Missouri School, Story of the Blind, 1901; Addresses Delivered at Laying of Corner Stone of North Carolina School, 1848; Circular of Information of Iowa School, 1853; Circular of Information of Wisconsin School, 1856; Origin and History of Georgia School, 1887, p. 11; Proceedings of American Association of Instructors of the Blind, 1853, p. 3; Proceedings of Reunion of Officers and Pupils of Ohio School, 1860, p. 6; Message of Governor of Ohio, 1839, p. 26; Message of Governor of New York, 1839, p. 8; Message of Governor of Connecticut, 1841, p. 15; Robert Walsh, "Didactics," 1836, p. 80; *Christian Examiner*, xxviii., 1840, p. 363; xliv., 1848, p. 448; Report of Pennsylvania Institution, 1834, p. 7; New York Institute, 1837, p. 27; 1839, p. 40; 1844, p. 34; Illinois School, 1853, p. 8; Indiana School, 1855, p. 18; Louisiana School, 1870, p. 18; 1873, p. 55 (quoting from *La Grande Era*, May 17, 1873).

spent in darkness and gloom, but to render the objects of our care, to society, useful members." [1] In some schools the purpose was avowed to "offer education and a useful professional or manual art." The full object is even more explicitly brought out in the statutes of some of the States in which the establishment of schools is provided for. Thus in Michigan it is declared that the school is to—

> Educate the blind and to afford them instruction in such useful arts and trades as they are best adapted to pursue, and such as will best enable them to maintain themselves.

The aim of the schools in Illinois and Wisconsin is given as follows:

> To qualify as far as practicable that unfortunate class of persons for the enjoyment of the blessings of free government, obtaining the means of subsistence, and the discharge of those duties, social and political, devolving upon American citizens.

To such an extent was the idea of education in all its bearings fixed upon the schools that it was felt in many quarters that no other character could be ascribed to them. A "charitable" basis for them was disclaimed, and even opposed; and it was hoped that they would stand only in the light of educational institutions, with no other stamp recognized.[2] The *North American Review* at the beginning expressed the prevailing opinion: "We want not to maintain the blind, but to put them in the way of their own maintenance." [3] In some cases pains were taken to establish the true function of the schools, and to announce that they were not "charitable," or that they were not "asy-

[1] Report 1841, p. 6. This matter is considered more fully in Chapter XXXII, in connection with the industrial aims of the schools.

[2] See Report of Indiana School, 1860, p. 13; Kentucky School, 1845, p. 7; New York State School, 1866, p. 53; Missouri School, 1872, p. 6; Louisiana School, 1873, p. 12; Tennessee School, 1875, p. 12. In a circular issued at the opening of the Kansas School, it is asserted to be "strictly an educational institution." Report, 1869, p. 14.

[3] xxxi., 1830, p. 84. See also W. H. Prescott, "Biographical and Critical Miscellanies," 1845, p. 80.

lums"—though in not a few instances there was little unwillingness manifested to put to the fore the philanthropic nature of the undertaking, when by such an appeal needed funds were likely to be attracted.[1]

Extension of Means of Instruction over the Country

The education of the blind, once begun in the United States, was not to be long in spreading over the land. As the success of one school became apparent, increased efforts were put forth for the creation of others; and in a number of States the movement for the establishment of institutions was early on foot. The *North American Review* in 1830, just before the opening of the first school, thus spoke of the situation with respect to the blind:

> Immured within hospitals and almshouses, like so many lunatics or incurables, they have been delivered over, if they have escaped the physical, to all the moral contagion too frequently incident to such abodes, and have thus been involved in a mental darkness far more deplorable than their bodily one.[2]

The approaching establishment of a school it hailed with delight. In an issue three years later, as the initial schools were put into operation, it commented:

> Public opinion has been aroused to the importance of the subject. One institution has been called into effective operation in Boston, a second is organized and is about commencing its operations in New York, and a third is in a state of forwardness in Philadelphia.[3]

In another magazine of the period, the *American Annals of Education*, encouragement was found in the outlook. It asserted:

[1] Such designation was applied more often in the case of the early schools in the East, a not unusual appellation being "this noble charity." It is found also in connection with other schools. See Report of Illinois School, 1865, p. 5; Texas School, 1874, p. 12. In a report of the Tennessee School it is said to be "not an asylum but a school," though a few lines farther down it is called "this noble charity." Report, 1859, p. 5.

[2] xxxi., p. 66. See also *ibid.*, xxxvii., 1833, p. 20.

[3] xxxvii., 1833, p. 56.

There are as yet but few establishments of the kind in the country, but if we may judge from the interest which these few have excited and continue to excite, we cannot but confidently hope that their number will soon be increased.[1]

The expectations thus inspired were not vain. In various communities earnest and capable men were found who were willing to take upon themselves the task of organizing and directing schools, some of whom threw themselves into it with a splendid ardor. There were many others also, sympathizers and supporters, who displayed a warm interest in the progress of the new undertaking, and were ready in one way or another to assist. The early workers for the blind were in general men of unusual character and attainments. Certain of them were physicians who turned with zeal to this fresh labor for humanity, while men of other callings proved themselves hardly less responsive. Ministers of the Gospel played a notable part, particularly in calling attention to the need, some of them being untiring in securing means of education. The beginning work for the blind, in short, brought to it for the most part a group of men possessed of rare qualities, together with a courage and determination that came at an opportune season. Well was it that the education of the blind was to be entrusted to the hands that it was.[2]

The first schools, as we have found, were created by societies of private citizens, the necessary funds for the work being derived from "membership fees" in them, from subscriptions, and from other private donations. To

[1] vi., 1836, p. 252. Schools in the West and Southwest were also particularly advised. *Ibid.*, iv., 1834, p. 579. See also *ibid.*, ii., 1833, p. 577; v., 1835, p. 135; *Ladies' Garland*, Philadelphia, ii., 1839, p. 24; *Universalist and Ladies' Repository*, vi., 1838, p. 321; vii., 1839, p. 430; *Albany Journal and Telegraph*, Dec. 28, 1833; Senate Documents, Massachusetts, 1839, no. 43; George Combe, "Notes on the United States of North America," 1841, i., p. 61; iii., p. 185; James Champlin, "Early Biography," 1842, pp. 135, 184; Robert Baird, "Religion in America," 1844, p. 180.

[2] The names of not a few of the early workers are entitled to lasting remembrance and honor: Samuel G. Howe, of Massachusetts; John D. Russ, of New York; Julius R. Friedlander, of Pennsylvania; John S. Plummer, of Virginia; William A. Mawl, of Ohio; James B. Flint, of Kentucky; and others, both their contemporaries and successors.

the aid of these schools the States later came with appropriations, the legislatures assuming at the same time a general control and supervision, though the institutions were left as private corporations. With the establishment, however, of the Ohio School in 1837 a second stage is reached in the extension of the means of education of the blind. The state now undertakes the task itself, and provides schools at its own initiative and expense. At the beginning admission was restricted to a certain number of pupils, often based upon some political division of the State, such as a Senatorial district in New York and Tennessee, or a judicial in Ohio. In the sweeping away of such limitations, we have the third stage in the provision for the instruction of the blind. The fourth and last stage—though not necessarily in this order in any one particular State, and not in every case formally accomplished—is attained, when on the opening of the school in Indiana the regulation which allowed free attendance to "indigent" children only is removed, and instruction is offered without charge to all. In the schools created in later times these several steps were usually merged into one: limitations of whatsoever kind were mostly omitted, and the institutions were in general thrown open to all from the beginning.

The schools for the blind thus in time reached in the state's regard the position of the regular schools. Private benevolence gave way to public action, and restrictions in the admission of pupils to free education for all. The state had come to realize its full educational duty towards the blind, and their instruction was placed upon the same footing as that of children in the possession of sight.

In the practical measures taken to provide for the education of the blind, the state had to depend, apart from what had been done by the regularly chartered societies, not a little upon the action of private citizens.[1] It was they who

[1] Where the schools were regularly chartered societies, fees were often fixed at $5 for members, $50 for life members, $100 for benefactors, $500 for patrons, and corresponding sums for other donors, though the size of the fees varied in different schools. These fees proved of no small assistance in promoting the work.

in many instances not only called attention to the need, but who also actually began the work of instruction, sometimes even forming special associations for the purpose.[1] Initial procedure often consisted in the bringing together of such blind children as were within reach, usually but few in number, and the starting with them of whatever approach to a school was possible. The undertaking was regarded largely as an experimental one; and it was upon the measure of success attending it that appeal for permanent support was to be based. It was hoped that as the results became known the state might be induced to take over the enterprise, and thereafter to provide regular support. Early endorsement of the movement could be counted on from the intelligent and progressive parts of the community; but to secure further interest and wider ratification, there were given exhibitions of pupils before the general public, and finally if opportunity offered before the legislatures.[2]

In not a few instances pupils were brought in from an already established school in another State, as a demonstration of what had been and could be done; in fact, it sometimes happened, as we have had occasion to note, that the original prompting in the matter came from the founders of such other schools. It was often the earnestness and zeal to spread the work of education of the blind that proved the most effective force in calling new schools into being.[3]

But through whatever action the foundation of the schools was laid, in order to enlist the support of the public and of

[1] This was notably true in the case of the schools in California and Florida. In the latter the organization was called the Association for the Promotion of the Education of the Deaf and the Blind.

[2] As a further means of stimulating effective concern, visits to the new schools on the part of the public were encouraged, though it was often hardly necessary to extend a formal invitation. The response was generally as spontaneous as it was enthusiastic. At the New York Institute visitors "were delighted with the scenes." Report, 1833, p. 4. At the Indiana School there was "grateful appreciation." Report, 1850, p. 14.

[3] As many as fifteen States, including all those in New England, were visited by pupils from the Perkins Institution. Report, 1846, p. 7; 1881, p. 103; M. Anagnos, "Education of the Blind," 1882, p. 54. To the exhibitions of these pupils nine schools are directly credited. Brief Summary of History of Perkins Institution, 1909.

the legislatures, there was frequent recourse to the exhibitions of pupils. It was largely by such means, as we have before indicated, that was secured the permanent establishment of the schools. In this way evidence was furnished of the pupils' ability to read, to perform on musical instruments, and to make industrial products. A second object of the exhibitions was to impress parents of blind children, and thus to gather in pupils. Still another motive at times was, if possible, to raise funds to assist in the work, it being hoped at any rate that enough would be forthcoming to defray the costs of the displays. It was not an uncommon occurrence for the exhibitions to be conducted on tours over the State, with visits to a number of counties and cities, and with entertainments perhaps most often given in churches, which were gladly offered for the purpose. To the affairs were generally drawn large crowds, and always delighted ones.[1]

In some instances the schools were located at or near the State capital, the more thoroughly to convince the legislators of what the blind were capable of accomplishing. Oftentimes, also, memorials or petitions, perhaps containing a great number of names, were presented to the legislatures, praying for the establishment of a school or for the public support of one. In not a few cases strength was lent in the earnest plea of the head of an institution for the

[1] In Ohio there were "numerous exhibits before thousands." Report of Ohio School, 1844, p. 8. In North Carolina the exhibits were before "vast numbers." Report of North Carolina School, 1856, p. 20. In Pennsylvania the "audiences were always too large for the exhibition halls or churches." E. E. Allen, "Historical Sketch of Life and Labors of J. R. Friedlander," 1903, p. 6. In this State twenty counties were visited. Report of Pennsylvania Institution, 1844, p. 20. In Ohio exhibitions were also given at the State university. Report of Ohio School, 1843, p. 16. In Kentucky the exhibits "awakened the deepest sympathy." Report of Kentucky School, 1849, p. 10. See also Report of Pennsylvania Institution, 1835, p. 4; Ohio School, 1840, p. 6; Kentucky School, 1844, p. 8; Indiana School, 1849, p. 7; Iowa School, 1855, p. 3; Tennessee School, 1857, p. 8; Maryland School, 1860, p. 20; Arkansas School, 1860, p. 15; 1882, p. 36; History of Illinois School, 1893, p. 16; Proceedings of American Association of Instructors of the Blind, 1878, p. 7; Journal of House of Representatives of Pennsylvania, 1834, p. 187; Journal of, Senate of Mississippi, 1854, p. 299; Journal of House of Representatives of Arkansas, 1866, p. 178; *New York Observer*, May 21, 1836; *Salem* (Massachusetts) *Mercury*, May 18, 1836; *National Intelligencer*, Washington, Jan. 10, 1837.

deaf, an institution perhaps just brought into being; and here and there action was secured through the insistent efforts of some organization, as a State medical body [1] or a charitable society.[2] Sometimes a citizen of a State where a school had been inaugurated would carry to another the joyful news, and bespeak a like undertaking. Further seed was sown by certain graduates of institutions already in operation, some of whom took a keen interest in the establishment of schools in States still unsupplied.[3] Now and then it happened that a man, perhaps himself blind, who had been instrumental in the creation of a school in one State would pass on to another and attempt to secure similar results.[4] Finally, as was an occasional occurrence, if there was doubt as to the wisdom of the proposed course, a point was to be gained in the dispatch, as a preliminary procedure, of a special committee or agent to some existing school in another State, to examine it and to make report upon its work, this report being, as was expected, nearly always a highly favorable one.[5]

[1] As in Ohio.

[2] As in Utah.

[3] Ten schools were assisted in their organization by such graduates. Report of United States Commissioner of Education, 1883, p. cxcvi.

[4] The schools in Illinois, Iowa, and Nebraska were all started by the same person. See History of Illinois School, 1893, p. 12. The school in Missouri was initiated by a blind man. Report, 1889, p. 15.

[5] On efforts to secure schools and the manner of their opening, see *Hazard's Register of Pennsylvania*, xi., 1833, p. 57; *Southern Literary Messenger*, i., 1835, pp. 134, 201; *Mentor*, i., 1891, p. 209; iv., 1894, p. 150; *Illinois Medical Journal*, xxvi., 1914, p. 187; Report of New York Institute, 1833, p. 12; Ohio School, 1839, p. 14; 1847, p. 10; 1856, p. 14; 1876, p. 37; 1880, p. 35 (3rd reunion of former pupils); 1885, p. 30; 1893, p. 141 (5th reunion of former pupils, 1890); Kentucky School, 1848, p. 12; 1882, p. 8; 1891, p. 7; Arkansas School, 1878, p. 47; Georgia School, 1863, p. 12; Louisiana School, 1873, p. 58 (Address of W. H. Goodale, in *New Orleans Picayune*, June 23, 1873); Wisconsin School, 1874, p. 9; Texas School, 1878, p. 21; Virginia School, 1879, p. 9; North Carolina School, 1892, p. 5; Report to Contributors of Pennsylvania Institution, and Address to the Public, 1834; Report of Trustees Appointed to Collect Information Relative to the Education of the Blind, Ohio, 1830 Constitution, Charter, By-laws, and Documents Relating to Pennsylvania Institution, 1837; Proceedings of Reunion of Officers and Pupils of Ohio School, 1860, p. 6; History of California School, 1893, p. 3; History of Illinois School, 1893; Missouri School, Story of the Blind, 1901; Proceedings of 25th Anniversary of Western Pennsylvania Institution, 1915, pp. 14, 50; *New York Institution for the Blind v. How's Executors*, 10 N. Y., 84 (1854); *People ex rel. New York Institution for the Blind v. Fitch*, 154 N. Y., 14, 47 N. E., 983 (1897); Report of New York State Board of

But, as we have seen, appeals to the legislatures of whatever kind, especially if accompanied by a presentation of the condition of the blind without education and of the blessings to be conferred by it, were rarely turned away, and usually secured prompt response.[1] In more than one State the Governor warmly espoused the new cause, and became a strong supporter of the project.[2] When the desired action relating to the education of the blind was finally to be obtained, the measure was passed with few dissenting votes, sometimes with none at all. If it did not appear advisable for an institution to be created in a particular State at once, a temporary expedient was to be availed of in the sending of blind children at public expense to a school in another State, an arrangement to last till one in its own borders

Charities, 1897, pp. 101, 359; *California News* (California School), May 23, 1903; Report of Utah School for the Deaf, 1892, p. 8; 1895, p. 8; J. P. Wickersham, "History of Education in Pennsylvania," 1886, p. 444; C. E. Jones, "Education in Georgia," 1889, p. 136; Report of Superintendent of Public Schools of Tennessee, 1875, p. 217; C. L. Coon, "The Beginnings of Public Education in North Carolina," 1908, i., pp. 379–382; A. R. Whitehill, "History of Education in West Virginia," 1902, p. 109; Bulletin of Iowa Institutions, ii., 1900, p. 453; Encyclopedia Americana, 1850, Art. "Blind."

[1] "Provision for the education of the blind was made in those States before the representatives of the people had time to wipe away the tears from their eyes." M. Anagnos, "Education of the Blind," 1882, p. 54; Report of Perkins Institution, 1881, p. 103. The action of the New England States in providing for their blind children at the school in Massachusetts is thus spoken of: "The readiness, and alacrity even, with which these States respond to the call in behalf of the blind is one of the most promising signs of the times. When the subject has been brought before the legislature of any State, and an appropriation asked for, it has been granted at once, without difficulty. Men of all parties and of all sects unite cordially; and forgetful even of habitual parsimony, they ask only how much is really needed, and give it with a blessing." *Ibid.*, 1849, p. 4. The legislature of Pennsylvania is said to have granted a charter and allowed an appropriation for the school in that State "with unparalleled promptitude and unanimity." Report of Pennsylvania Institution, 1834, p. 5.

[2] "The blind are another class of persons upon whom misfortune has laid a heavy hand, and who have a just claim to something more substantial than bare sympathy. Books have recently been made with embossed letters, whereby they are enabled, after a proper course of instruction, to read with considerable facility. By this ingenious contrivance a new avenue is opened to their minds, and ample means of knowledge brought within their reach. The number of persons suffering under the deprivation of sight in this State cannot be accurately estimated; but it is very considerable—sufficiently so at least to make their condition a subject worthy of your attention and kind regard." Journal of Assembly of New York, lvii., 1834, p. 16. See also Message of Governor of New York, 1867, p. 15; Report of Oregon Board of Charities and Correction, 1892, p. 282.

could be brought into being. In some cases steps were taken by the legislatures of territories before statehood had been conferred upon them.

In a great many ways the action taken for the creation of schools for the blind was similar to that taken with respect to schools for the deaf, which may be said to have set the precedent for institutions for the special classes. In most States schools for the deaf were created before schools for the blind, this being because the number of children of the one class was considerably in excess of that of the other, and consequently received prior attention. In but eight States did schools for the blind precede schools for the deaf—Arkansas, Iowa, Massachusetts,[1] Maryland, Mississippi, Tennessee, Texas, and Wisconsin.[2] As a usual thing on the creation of a school for the blind the same provisions were adopted which applied to the school for the deaf. In certain cases departments or classes for the blind were established in already existing institutions for the deaf, and in other cases the schools were created to receive both classes. This was done chiefly for the reason that the arrangement appeared to be the most economical one, there being so few children of either class at the start, and the deaf usually outnumbering the blind. It was also true that the public and the legislatures, as well as the promoters themselves sometimes, so much taken with the idea of educating the two classes, could hardly be expected fully to discern the lines that actually separated the two in their respective educational needs and methods.[3]

[1] The school for the blind in Massachusetts was intended to answer for the blind of the New England States, just as the school for the deaf in Connecticut, established some years sooner, was intended to answer for the deaf of this section.

[2] In Missouri schools for both classes were opened the same year. In West Virginia the deaf were added to the provisions of the bill creating a school for the blind. In Mississippi the trustees of the school for the blind acted for a time as trustees for the school for the deaf. In a department for the blind created at the school for the deaf in the District of Columbia, there were only 7 blind children during its continuance of eight years.

[3] On the union of the blind and the deaf in one school, see Chapter XIV. There were, however, early protests against the policy. See Report of Michigan School, 1855, p. 1; 1859, p. 27; 1858, p. 46; Minnesota School for the Deaf, 1866, p. 5; Alabama School for the Deaf, 1868, p. 5; 1871, p. 12; North Carolina School, 1857, p. 17;

In this work of creating schools for the blind, no inconsiderable debt is found to be owed to private action. It was private initiative that often brought the schools into being, and private exertions that often won for them their endorsement or adoption by the state. Few were the communities, as we have discovered, where there were not a sufficient number of citizens prepared to lend substantial aid to the enterprise.[1] For some of the schools, money was not only subscribed, but it came also from the proceeds of fairs and other entertainments, while exhibits of pupils seldom failed to draw generous offerings. Contributions were tendered not only by various individuals, but also by churches and other organizations. In a small number of cases funds were collected from citizens with which to purchase a site for the school, and in other cases the land required was given by the cities themselves. Indirect aid of not a few kinds was extended as well; and in the early days there was little difficulty in getting reduced transportation on railroads or steamboats.

Louisiana School, 1870, pp. 15, 30; 1871, p. 10; 1873, p. 31; New York State School 1866, p. 51. On the other hand, now and then the advantages of the arrangement were pointed out. See *Southern Literary Messenger*, x., 1844, p. 30; Report of California School, 1869, p. 15; 1873, p. 18. It is interesting to note that at the Perkins Institution the question was considered of the creation of a department for the deaf; and it seems that for a time a few of them actually received admittance. See Report of Perkins Institution, 1844, p. 22; *American Annals of the Deaf*, i., 1847, p. 107; Report of Massachusetts Board of Charity, 1864, p. 71. A few deaf children were also received at the school in Oklahoma at first. Message of Governor of Oklahoma, 1899, p. 16. On comparison of the beginning work for the blind and for the deaf, see E. E. Allen, "Education of Defectives," 1900, p. 3. In certain of the early schools for the deaf and the blind departments for the feeble-minded were maintained for a longer or shorter time, as in Illinois, Minnesota, and Montana. In one or two instances the insane were provided for under the same management at the beginning, as in Michigan. In Ohio a committee was appointed to consider "the erection and location of a public asylum for the reception of lunatics and the instruction of the blind." Report of Ohio School, 1856, p. 15.

[1] In some cases subscribers were numerous. Assistance was usually continued till the schools were well on their feet, and sometimes this was renewed when they later fell into sore straits, now and then the promoters even pledging themselves for support. On appeals for aid, see "Address to the Citizens of the City and County of St. Louis in behalf of the Missouri Institution for the Education of Blind Children," 1851. On the assistance from all classes, see Report of Kentucky School, 1848, p. 13. A single fair or tea sometimes netted as much as $500. We have noticed the early assistance to the schools in Massachusetts, New York, and Pennsylvania.

In the aggregate, however, private assistance to the schools did not prove great; and in but a few instances was it of considerable extent. As a rule in most cases it was limited, usually sufficing only to tide the school over its nascent stage, and in large part ceasing upon its full establishment. From this time on the maintenance of the institutions was assumed practically entirely as a public charge, the legislatures of the several States undertaking to provide directly for them.[1] At a much later period we find public aid of a different kind granted to certain institutions, this being done by the National Government when, on the admission into the Union of some half dozen States in the West, extensive tracts of the public domain were set aside for the benefit of the schools to be established in them.[2]

When provision for the education of the blind had been formally resolved upon by the State, its first act of assistance, especially in the case of the earlier schools, was in the form of *per capita* allowances for the pupils, with only occasionally a specific appropriation. These allowances were in the beginning small, but in time were gradually increased. It was usually some years before the policy

[1] In several States, as North Carolina and Utah, there were allowances also from the counties. In the former State these were $75 for each pupil. In Maryland there were grants from the city of Baltimore; and in several other cases there was assistance from cities at the beginning.

[2] In this connection it may be noted that schools for the blind were not the recipients in the first days of their work of donations of land from the Federal Government as were the schools for the deaf in Connecticut and Kentucky. The Perkins Institution, the New York Institute, and the Pennsylvania Institution all asked Congress for land, as did several schools in the South and West. Exhibitions of pupils were even given before Congress by the three schools named in the hope of enlisting its sympathy. At one time also a request was made for a part of the Smithsonian fund to aid the schools. A bill bestowing land upon schools for the blind, the deaf, and the insane passed one of the Houses of Congress in 1852. One purpose of the organization of the American Association of Instructors of the Blind in 1853 was to request the granting of land from Congress. See Report of New York Institute, 1844, p. 5; 1845, p. 21; 1846, p. 18; Perkins Institution, 1853, p. 29; Wisconsin School, 1852, p. 7; Proceedings of American Association of Instructors of the Blind, 1853, p. 5; *National Intelligencer*, Washington, July 9, 1842. In Arkansas 100 sections of land were asked for. Journal of Senate, 1868, p. 674 In 1851 the State of Vermont asked for 10,000 acres of land for the benefit of a hospital for the insane and for the education of the blind and the deaf. Laws, 1851, no. 81.

was adopted of making regular appropriations. Even where appropriations in the lump were instituted from the start, these were often, owing to the lack of wealth in some of the States, meagre to begin with; and were only made larger in the course of the years. In a few States, as Illinois, Indiana, and Wisconsin, when it was decided to create a State institution, the first proceedings were, in lieu of, or in addition to, a direct appropriation, the levying of a small mill tax upon the assessed property valuation of the State.[1] Now and then a favor or consideration was extended to the school of some special kind.[2] In some cases, in order to stimulate private benevolence and to increase the resources of the school, appropriations were made on the condition that a given sum be secured from private means.[3] Not infrequently the schools were located where there appeared to be the greatest financial inducement, as with the requirement that a certain number of acres of land should be donated for their sites.

[1] In Illinois a tax of one-tenth of a mill on each $100 of assessed property valuation was levied in 1851, lasting for four years, and netting the school $99,000. In Indiana in 1842 a two-mill tax was levied for the benefit of pupils sent to Ohio and Kentucky; and in 1846 a one-cent tax for the school, and in 1851 a tax of $1\frac{1}{5}$ cents, for one year. In Wisconsin there was a tax of $\frac{1}{15}$ of a mill at first. In North Carolina a tax of 9 cents on $100 was levied in 1876. In Oklahoma a tax of $\frac{1}{10}$ mill was levied in 1899. On suggestions at the constitutional convention in Iowa in 1857 for the raising of funds, see C. R. Aurner, "History of Education in Iowa," 1914, i., p. 201.

[2] In several States funds were authorized for a time from the sale of public land. In Arkansas at one time, when no other funds were to be had, an appropriation was made from the Seminary and School funds. American Yearbook and Repository, 1869, p. 283. In North Carolina the first appropriations came from the "literary fund" of the State. In Kentucky, in 1844, just after the establishment of the school, a small railway, known as the Louisville & Portland Railroad, was organized, largely for its benefit, the trustees of one being practically those of the other. The railroad was chartered for a period of 30 years, with a capital stock of $100,000. The State granted the right of way, and subscribed to the stock, allowing $10,000 of the stock of the State bank held by the State board of education. In case of failure, the property was to revert to the State, to be held in trust for the school. There proved to be many difficulties in the way of the undertaking, and but little was realized from it for the school. The charter of the railroad was eventually sold for $600. See Report of Kentucky School, 1849, p. 7.

[3] Thus the State of Pennsylvania made its first appropriation of $20,000 on condition that $25,000 be raised from private funds. In New York $12,000 was granted in 1836 on condition that a practically equivalent sum be thus secured; $10,000 in 1839; and $7,000 in 1841. In Missouri the first appropriation, consisting of $15,000, was made on condition that $10,000 be raised. See Report of Missouri School, 1889, p. 15.

For the regular organization of the new schools, a small body of citizens, usually the original promoters, was appointed to act as trustees, to whom was confided their direction, often with power to choose the seat of their operations and to make the necessary arrangements for their conduct.[1] Over them the legislature maintained a general supervision, with special committees to look after them.[2]

On their material side, few of the schools could start out in encouraging circumstances. The resources available for their proceedings, while reflecting most creditably upon the generosity of sparsely settled communities, could not be expected to be of very great extent; and the schools had to carry on their work with whatever facilities they were able to find at hand. The quarters secured for their activities were hardly likely to be pretentious, and were usually modest in the extreme. Many schools began in a single rented room, a few in a church lent for the occasion, and one or two in the home of a devoted teacher. It was only in the course of the years, as the States grew in population and in wealth, that the establishments for the blind took on appearances in keeping with their character.

The schools for the blind were now in being, and were ready to take up their appointed tasks. But a new and unexpected problem was found to await them. This was to secure pupils whom they could educate. Though in nearly every community where an institution was estab-

[1] In Tennessee the first board of trustees consisted of three clergymen; and in Washington, of a physician, a lawyer, and a "practical educator." In Kentucky the first board was the local board of education; and in Florida, the State board of education. In Oregon the State board of education or State officials constituted the first boards; and in Montana and New Mexico, State officials. In Delaware the education of the blind was for a long time in the hands of the Justices of the Superior Court. In Minnesota at the beginning the Governor of the State, the Lieutenant-Governor, and the Judges of the Supreme Court were made visitors *ex-officio* of the school. In Oklahoma, Utah, and Texas the schools were for a time connected with the State university. In certain schools there were committees of lady visitors for a longer or shorter time, as in those of Kentucky and Missouri and in the Pennsylvania Institution. In some cases the boards had direction of other classes as well, especially the deaf, as we have noted.

[2] According to the Act establishing the school in Kentucky, it is "in all things and at all times subject to the control of the legislature."

lished, there were a greater or less number of blind children, it was discovered to be a most difficult matter to get them in. The purposes of the schools were little understood, while very frequently the parents themselves, despite the promised benefit, proved unwilling to part with their afflicted offspring. Besides, in many sections the country was new, the roads bad, and the facilities of communication scant.[1]

Thus the schools on the opening of their doors had very few pupils to begin with. Seldom did the total number in a single one exceed half a dozen.[2] But if the pupils were slow in availing themselves of the privileges of education placed before them, the schools were determined not to be content with the mere extending of an invitation, but to do something more. They proceeded to go out and seek pupils, and if possible to compel them to come in. It was found that they already had certain provisions of the law to aid them. Oftentimes it was the case in the course of the founding of the school that before any direct action was attempted, an enumeration was directed of the blind of the State, perhaps together with other classes. In some States it was also made the duty of certain local officers,

[1] Says an early report: "It is very natural to suppose that as soon as an institution is opened, pupils will flock to it, eager to avail themselves of its proffered benefits; but the experience of all who have preceded us in this enterprise goes to show that something more is left to be done. . . . We must first visit their homes prepared to show them and their incredulous friends that they are susceptible of education." Report of Indiana School, 1848, p. 10. "The blind are reluctant to leave home, and the parents of the blind are slow to believe that they can be instructed." Report of Missouri School, 1853, p. 6. On the difficulties of getting blind children into the schools, see also Report of Kentucky School, 1847, p. 7; 1855, p. 8; 1886, p. 7; 1887, p. 7; Indiana School, 1850, p. 17; Ohio School, 1844, p. 9; Illinois School, 1857, p. 11; Georgia School, 1853, p. 4; Wisconsin School, 1864, p. 5; 1859, p. 24; 1876, p. 14; 1885, p. 4; Louisiana School, 1870, p. 7; 1879, p. 18; North Carolina School, 1852, p. 4; 1860, p. 9; Missouri School, 1856, p. 18; Arkansas School, 1882, p. 10; Maryland School, 1883, p. 9; West Virginia School, 1890, p. 14. On the other hand, it has been asserted that it did not prove difficult to bring pupils in. Report of Louisiana School, 1855, p. 11.

[2] The number at the beginning in the Perkins Institution and the Virginia School was 6; in the Ohio and Kentucky schools, 5; in the Pennsylvania Institution and the Illinois School, 4; and in the New York Institution and the Iowa School, 3. In the Texas School there was not a pupil for the first month, though 7 came during the year. On this subject, see Proceedings of American Association of Instructors of the Blind, 1874, p. 5.

as county clerks, assessors, tax commissioners, selectmen, and others, to register and report prospective pupils—though it is to be said that on the whole this task was but ill performed.[1] From whatever sources the names of possible pupils could be secured, to whom information might be sent or upon whom visits might be made, efforts of all kinds were put forth to reach them. By many of the schools circulars were distributed through the hands of postmasters, tax-collectors, ministers, school-teachers, and other persons whose help might be enlisted;[2] while by a few of the schools the newspapers were availed of to carry their advertisements, or to answer inquiries. In a considerable number of cases special agents were sent out to scour the State and gather in pupils; while it may almost be said to have been the customary practice of the superintendents of the schools to make tours, often accompanied by pupils, the exhibitions of whom, already referred to, did much both to awaken attention and to show the benefits to be obtained through education.[3]

In some States, on the other hand, certain terms of admission, of more or less formal character, were laid down — although on the whole there was little intention or effort to live up to them—and it was usually some years before the greater part of them were done away with.[4] In a large

[1] See Report of Kentucky School, 1850, p. 4.

[2] See Report of Michigan School, 1874, p. 43. In Ohio some 2,000 circulars were sent out.

[3] On the success of these exhibitions, see Report of Indiana School, 1849, pp. 7, 12; 1850, p. 10; Kentucky School, 1849, p. 3. In Missouri an agent of the school "entered into an exploration of that part of the State north of the Missouri River," finding twenty-five blind children, ten of whom he "induced" to enter. Report of Missouri School, 1860, p. 3. In Iowa the members of the State legislature were urged to visit the blind in their respective districts and to persuade them to come to the school. Report of Iowa School, 1856, p. 6. In Georgia the sheriffs of the several counties, as well as the grand juries, were appealed to for help. Report of Georgia School, 1859, p. 16; 1860, p. 12. On efforts to bring in pupils, see also New York Institution for the Blind, Brief Account of Its Organization, Character, and Prospects, 1843; Report of Superintendent of Public Schools of Tennessee, 1875, p. 218; Report of New York Institute, 1856, p. 17; Kentucky School, 1842, p. 3; 1847, p. 7; 1848, p. 8; Ohio School, 1862, p. 7; 1885, p. 55; Minnesota School, 1867, p. 54; Louisiana School, 1870, p. 19; Arkansas School, 1870, p. 27; Maryland School, 1877, p. 5.

[4] As to requirements of admission, see *Rhode Island Educational Magazine*, i. 1852,

portion of the schools the pupils were individually appointed, or were "committed," as it was called.[1] In some, as we have previously noted, restrictions were placed upon the number of pupils to be admitted, especially as to the number from a designated political division of the State.[2] With the earliest established schools, as we have also observed, charges were often at the beginning prescribed for children who were able to make payment, later to be reduced, and finally to be abolished—though there was rarely in any case serious effort to collect them.[3]

In most of the schools in their first days the period of attendance to be allowed to pupils was very short, often being but three or four years, and now and then only two. Usually, however, after a time one or two years were added to the number permitted, which procedure was repeated after certain intervals, and the length of residence was thus gradually increased. In few of the States, moreover, was an early age insisted upon. In fact, in a considerable part

p. 145. In many of the schools there was, and still is, a formal requirement of good character. In the New York State School preference was at first to be given to the children of United States war veterans. It may be noted also that sometimes at the first brighter children were chiefly desired—"in large part for the reason that, the schools being experimental, it was necessary that they prove successful if legislative support was to be permanent." E. E. Allen, *op. cit.*, p. 21.

[1] In some of the States the pupils were long known as "beneficiaries." The power of appointment was not infrequently vested in the Governor of the State, to whom application also had usually to be made.

[2] In New York in 1834 there were allowed 4 pupils from each Senatorial district of the State; in 1836, 4 more; in 1839, 8 more; in 1852, 4 more; and in 1855, all the indigent. In Kentucky if there were more pupils than there were accommodations for, they were to be apportioned among the several counties—a measure still on the statute books. In Maryland before the establishment of a school the law authorized the education of but 10 pupils in one year, and for a time after the establishment, of but 20.

[3] For the indigent a formal declaration has sometimes still to be made, as we are later to see. In the case of the Perkins Institution there was at first a formal charge of $160, which after a time was raised to $200. See Report, 1849, p. 4. In Ohio the tuition fee was in 1838 placed at $120, 12 indigent children receiving free admittance each year, or 60 in all at one time; in 1843 the trustees were given discretion, admitting as many as they thought suitable; and in 1851 all the blind children of the State were admitted without cost. On objections to the imposition of charges for any pupils, see Report of Wisconsin School, 1858, p. 30; 1859, p. 23; 1866, pp. 7, 14; Iowa School, 1854, pp. 4, 7; Louisiana School, 1861, p. 7; Missouri School, 1874, p. 12. For suggestions that charges be imposed upon those able to pay, see Report of Committee of Medical Convention on the Subject of a Public School for the Education of the Blind, Ohio, 1835.

of them pupils were not admitted at an early age, the limit at which they might be received not infrequently being ten or twelve years of age. The limit to which they might remain was correspondingly high, in some cases pupils being allowed to enter up to their thirtieth year.[1] These restrictions as to age were also lowered in the course of time. In both matters, however, considerable discretion was conferred upon, or was assumed by, the directors from the beginning. Thus eventually we find the ages of attendance as well as the general rules and regulations of admission conforming more and more to those of the regular schools.

The various schools that have been created in the United States for the education of the blind have as a general thing been boarding institutions, in which the pupils have remained the entire scholastic year.[2] Since the beginning of the twentieth century a certain number of day schools have been established, more on the order of the regular common schools, and more distinctly an integral part of the state's educational economy. Their operations are mainly confined to large cities, being now found in some half score or more.[3]

For the great number of the blind affected by special schools—over nine-tenths of the total number receiving instruction—the institutions have remained the one means of education. These have been created in most of the States of the Union. In those without them blind children

[1] In a few instances even adults were enrolled in the schools, this being especially the case when industrial training or opportunities were to be afforded. On the age period of attendance, see Report of Indiana School, 1851, p. 16; New York Institute, 1853, p. 18; Pennsylvania Institution, 1853, p. 18; Illinois School, 1860, p. 8; New York State School, 1870, p. 11; Report of United States Commissioner of Education, 1880, p. clxvi.

[2] In most cases the schools have had continuous existence. In some of the Southern States there was suspension during part of the Civil War. In Michigan the school was closed for one or two years shortly after opening. Report of Michigan School, 1864, p. 10. In Oregon the school was closed from 1879 to 1883. Message of Governor of Oregon, 1880, p. 16; Report of United States Commissioner of Education, 1880, p. clxxv.; *Mentor*, i., 1891, p. 67.

[3] Private schools for the blind have not been attempted in America, as they have for the deaf. A few of the private homes for the blind, however, afford instruction to the inmates of suitable age.

are sent to a school in a neighboring State. The schools are as a rule supported entirely from the public treasury, and are controlled by the legislatures, the actual administration being delegated to special boards of trustees or similar bodies. In half the States regard of an enduring kind has been manifested for the schools, in that provision for them has been included in their Constitutions, so that these States are committed to their maintenance.

We have now traced the origin and development of the schools for the blind in the United States. In the following chapters we are to examine in greater detail their organization, together with the general provisions that are made for instruction.

CHAPTER XIV

GENERAL PROVISIONS IN RESPECT TO INSTITUTIONS FOR THE BLIND

General Arrangements in the Different States

Most of the States of the Union have institutions within their borders for the education of blind children. In ten States such children are sent to schools outside: Arizona, Delaware, District of Columbia, Maine, Nevada, New Hampshire, New Jersey, Rhode Island, Vermont, and Wyoming.[1] In each of the remaining States there is at least one institution, or forty-six in all. In New York and Pennsylvania each there are two.[2] In the Southern States there are usually separate departments in the institutions for children of the colored race.[3] In Virginia there is one institution for the white blind and deaf, and one for the colored. In Alabama, Maryland, Oklahoma, and Texas each there is a school for the white blind and a joint school for the colored blind and deaf.[4] In nearly all the States the institutions are strictly public institutions, owned by

[1] In Connecticut older children are sent outside.

[2] On the creation of a second school in each of these States, an industrial establishment was proposed instead.

[3] No provision, however, has as yet been made for the colored blind in Louisiana and Mississippi, though early action is looked for, a special commission having been created in the former State in 1917 to consider the matter. See Message of Governor of Louisiana, 1908, p. 78; Report of Louisiana School, 1916, p. 33. The first school to make special provision for the colored was North Carolina in 1808. See Report of North Carolina School, 1869, p. 13; 1871, p. 15. On the education of the colored, see Report of Maryland School, 1873, p. 23; 1877, p. 24; Arkansas School, 1888, p. 45; Georgia School, 1880, p. 10; Proceedings of American Association of Instructors of the Blind, 1880, p. 51.

[4] In North Carolina there is a department at the school for the blind for both the colored blind and deaf. In West Virginia the colored blind are sent outside for education.

the state and supported by taxation,[1] and under the direct control and supervision of the legislatures.[2]

Semi-Public Institutions

Certain of the institutions, all in the East, are "semi-public" or "*quasi*-public" institutions. These are in private hands, operated under the immediate direction of societies organized for the purpose, and supported to a greater or less extent by endowment funds, but at the same time receiving appropriations from the state and subject to its general authority and oversight. Such institutions, six in number, are found in five States: Connecticut, Maryland, Massachusetts, New York,[3] and Pennsylvania. Here the schools have remained private corporations from the time that they were established, some of them being, as we have seen, the first schools to be created for the blind. They were usually the recipients of considerable gifts from private sources at their beginning, and continued to be supported by private funds till the state came to their aid with regular appropriations. All of these institutions are in the hands of societies organized and chartered under the laws of the state.[4] Membership in the societies is as a rule open to persons who are interested on the payment of the prescribed dues or fees.[5] Assistance from the state to them now is

[1] There are frequently general rules with regard to the treatment of the grounds and buildings of the institutions. Occasionally the sale of intoxicating liquors near them has been prohibited. In Colorado it has been held by the court that, inasmuch as the location of the school, included among other State institutions, had been fixed by the Constitution of the State, it could not be changed except by amendment thereto. *In re Senate Resolution Relating to State Institutions*, 9 Col. 626, 21 Pac. 472 (1886). As to the location of schools, see also Message of Governor of Oklahoma, 1913, p. 100.

[2] Frequently the Governors of the several States refer to the schools in their Messages in terms of affectionate pride.

[3] One school in New York, the New York State School, is strictly a State institution. The school in Maryland is now practically a State institution.

[4] In a few cases these societies contain a membership of several hundred. The institution in Connecticut is a corporation without capital stock.

[5] These fees and dues are of varying size. Annual dues are often $5, but may be as high as $25. Life membership fees range from $100 or less to $500. There are corresponding fees for patrons, vice-presidents, and others.

usually in the form of *per capita* allowances for the pupils received, while there may be occasional appropriations for buildings or other equipment.[1]

For support these schools have thus to depend upon their endowment funds, supplemented by subsidies from the state;[2] and hence it may be said that the semi-public institutions are providing for the cost of the education of the blind, to which the state but lends assistance.[3] In this plan there are presented two matters which may seem of public moment. The first is that in respect to the education of certain of the children of the state, a recognized public duty is turned over to a private organization. In its practical bearings, however, this question assumes little real importance. It is merely an instance of the state contracting out for certain services which can in this way be better and more economically performed.[4] The second matter is that of the granting of public money to private institutions. Though the question has received more or less

[1] On the status of semi-public institutions, see Report of Wisconsin School, 1866, p. 21. The relation of these schools to the state and the conditions under which they operate may be understood from the position of the institutions for the deaf in the State of New York, which are not different from those for the blind. They were chartered by the state as benevolent bodies, the buildings and grounds were presented, or the money for them collected, by the trustees, and the property reverts to the state if alienated to another use. See Proceedings of National Conference of Charities and Correction, 1883, p. 416. By its organic Act, the Perkins Institution was placed in the hands of the persons composing the corporation and of other persons paying the sum of $25.

[2] The annual appropriations for each pupil are now from less than $300 to $400. In Massachusetts the kindergarten department of the Perkins Institution is dependent for support entirely on its endowment funds, no State appropriations having ever been made to it.

[3] Complaint is often made of the inadequacy of the State appropriations. Of the Pennsylvania Institution, it is said: "At no time has the State paid more than two-thirds of the cost." Proceedings of American Association of Workers for the Blind, 1911, p. 13. See also Report of Pennsylvania Institution, 1880, p. 7. Of the Perkins Institution in Massachusetts, it is stated that it "costs the school twice as much to educate and support pupils as the State pays." It is also said: "The needs of the Institution have never been more than partly met by State appropriations." Report, 1911, p. 32. See also Report, 1916, p. 19; Brief Summary of History of Perkins Institution, 1909.

[4] In Massachusetts an amendment to the Constitution was adopted in 1917, forbidding the extension of public funds to institutions not wholly under the control of the State. What will be the effect of this upon the Perkins Institution of that State is not as yet known.

attention on general lines, its application to schools for the blind is not likely to meet with serious consideration. These schools have merely stood in the place of the state, doing only what it should have directly done.[1]

"Dual Schools"

In some cases there are provided "dual schools," or schools in which there are departments for both the blind and the deaf. These are found in nine States: California, Colorado, Florida, Idaho, Montana, South Carolina, Utah, Virginia, and West Virginia.[2] In a number of other States the blind and the deaf were educated together for a greater or less length of time, as we have seen—either the two classes being provided for jointly from the first or a department for the blind being later created in the school for the deaf. In the course of time in these States the two classes have been separated, and distinct schools for the blind have been set up.[3]

As a general thing, this union of the blind with the deaf has been regarded as an unfortunate policy. It has been declared: "They have nothing in common in the matter of education, and the bringing of the two classes together is a prolific source of friction and compromise." [4] Against the arrangment educators of both classes have protested, though the strongest opposition has come from those concerned with the instruction of the blind. In a dual school it almost necessarily results that injustice is done to the blind. Even though unintentionally, they are found to be discriminated against. The blind are always in a minority,

[1] On this question, see Report of Superintendent of Charities of District of Columbia, 1891, p. 11; *American Journal of Sociology*, vii., 1901, p. 359.

[2] As we have noted, there are similar arrangements for the colored blind and deaf in Alabama, Maryland, North Carolina, Oklahoma, Texas, and Virginia.

[3] In California and Virginia plans are under way for a separation.

[4] Report of Colorado School, 1908, p. 20; Report of Colorado Board of Charities, 1908, p. 125. The plan has also been characterized as "mentally and physically depressing." Proceedings of National Conference of Charities and Correction, 1882, p. 211.

and are often considered as only a department or a class in an institution designed primarily for the deaf. Consequently, they are likely to receive less attention and care than are their due, and their interests are not infrequently neglected.[1]

However, this arrangement, as we have also previously had occasion to observe, has not been adopted as a deliberate policy on the part of the state. It was begun when the schools were young, when pupils of both classes were few, and when, because of the ignorance of the public as to their respective needs, one plant was thought to be adequate for both. The plan was usually allowed to continue until the resources of the State and the number of both classes had increased to such an extent as to make obvious the wisdom and the necessity of separate institutions. In those States where the dual institution is still retained, it is in all probability only a question of a few years until provision will be made for the separate education of the

[1] At one of the earliest conventions of the American Association of Instructors of the Blind, the following was enunciated: "(1) Deaf-mutes and the blind differ from each other even more widely than either class differs from those having all their senses; these differences, constitutional or incidental, are such that they cannot be intimately associated without unpleasant results; (2) the modes of instruction peculiar to each are entirely unlike and incompatible; (3) when both classes are instructed together, the mutes being usually more numerous than the blind, are likely to engross a still larger proportionate share of the attention of the officers; (4) the experience of the institutions for both classes shows that, while the department for mutes prospers and its inmates increase with the population, the growth of the blind department is almost invariably retarded." Proceedings, 1871, p. 87. See also *ibid.*, p. 43; 1874, p. 11; 1886, p. 47; 1915, p. 61; Proceedings of Conference of Principals of Schools for the Deaf, 1872, pp. 146, 151; Proceedings of American Association of Workers for the Blind, 1911, p. 101; Report of Michigan Penal, Reformatory, and Charitable Institutions, 1876, p. 31; 1878, p. 129; Message of Governor of Colorado, 1883, p. 14; Message of Governor of West Virginia, 1901, p. 6; 1903, p. 45; 1905, p. 36; 1911, p. 26; *Colorado Index* (Colorado School), Feb. 19, 1900; *Washingtonian* (Washington School for the Deaf), May, 1910; Report of Ohio School, 1867, p. 11; Louisiana School, 1874, p. 32; Michigan School, 1878, p. 46; 1880, p. 62; California School, 1902, p. 18; 1906, p. 10; 1908, p. 12; Report of West Virginia Board of Charities, 1910, p. 209; Proceedings of National Conference of Charities and Correction, 1882, p. 209. On the other hand, a favorable word for the connection has been heard now and then, as we have before observed. See Proceedings of American Association of Instructors of the Blind, 1915, p. 61. In New Mexico, where there are separate schools for the blind and the deaf, the Governor of the State has advised their consolidation on the ground that one institution "could minister to the needs of both." Message, 1907, p. 21.

two classes; and eventually there will be independent institutions for each in all the States.

Provision for Deaf-Blind Pupils

Deaf-blind children are more frequently educated in schools for the deaf than in schools for the blind.[1] Sometimes special authorization for the teaching of such pupils, together with a special appropriation, has to be obtained from the legislatures, but little difficulty is ever met with in this respect.[2] Deaf-blind persons do not form a large number, though so great have been the accomplishments of certain ones that their names are known over the civilized world.[3]

[1] It was at the American School for the Deaf at Hartford, Connecticut, in 1824 that the first deaf-blind pupil in the country began to receive instruction. It was at the Perkins Institution, however, a few years after its opening that Laura Bridgman, Dr. Howe's famous pupil, drew the attention of the whole world to what might be done for such persons. This school is the one school for the blind in which deaf-blind pupils have been educated, though instruction has been afforded in several of the "dual schools." Schools for the deaf or "dual schools" in which they are, or have been, educated are the New York Institution, the Pennsylvania Institution, the Western Pennsylvania Institution, and the schools in Virginia, North Carolina, South Carolina, Mississippi, Texas, Kentucky, Arkansas, Ohio, Illinois, Wisconsin, Iowa, Minnesota. South Dakota, and Colorado. The number in a single school at any one time seldom exceeds two or three, often there being but one. Pupils in schools for the deaf are given instruction in the methods usually employed therein, including speech, the sign language, and the manual alphabet. Occasionally suggestion has been made of the use of a kind of glove to be worn, marked with the letters of the alphabet which are to be duly touched. See H. T. Clark, "Talking Gloves for the Deaf and the Blind," 1917.

[2] In one or two States, as Ohio, such children may be educated at their homes under proper conditions.

[3] There were found to be, as we have seen, 584 deaf-blind persons in the United States at the census of 1910. Of 96, for whom special schedules were returned in connection with this census, 52 were males, and 44 females; 79 were native-born whites, 11 foreign-born whites, and 6 Negroes. So far as reported, 22 were under twenty years of age, and 23 over sixty-four, the remainder being between these years. Most were deaf-mutes who subsequently became blind, 47 being congenitally deaf, and 19 losing their hearing before the fifth year, and but 8 after the tenth. In the case of 14 the blindness was congenital, while by 15 sight was lost before the fifth year, and by 36 after the twentieth year. The most important specified causes of blindness were cataract, with 9 cases; meningitis, with 9; scarlet fever, with 5; atrophy of the optic nerve, with 4; and external injuries, with 4. The cause of deafness in 9 cases was meningitis, and in 7 scarlet fever. Of 77 making report as to the consanguinity of parents, 16 stated these to be first cousins; with 5 there were defective parents; with 7 there were deaf-blind brothers or sisters; with 3, blind brothers or sisters; and with 12, deaf brothers or sisters. Of 55 persons five years of age or over

Provision for the Feeble-minded Blind

In many of the schools for the blind a problem has arisen in connection with the seeking of admittance of a number of children who are feeble-minded as well as defective in sight.[1] Educators of the blind have been called upon to

making report as to education, 30 had attended a special school for the deaf; 2, a special school for the blind; 2, both kinds; 7, wholly or partly a special school; 5, miscellaneous schools; and 4 were inmates of institutions for the feeble-minded—while 35 had received no education. Of those five years of age or over, 17 were able to read raised print, and 72 unable. Of those ten years of age or over, 5 employed speech, the remainder using, either singly or in combination, finger-spelling, the sign language, or writing. By 5 persons, all males, an occupation was reported, this being broom-making for 2, gardening for 1, chair-caning for 1, and cabinet-making for 1. By 1 female an independent income was reported. Of the males gainfully employed, 3 were self-supporting, and 2 were not so; while 3 were dependent on their occupation, and 2 were not so. The annual earnings of 1 were less than $100; of 2, $100 but less than $200; of 1, $200 but less than $300; and of 1, not reported. "The Blind in the United States," 1917, pp. 159–161, 282. See also "Deaf-Mutes in the United States," 1918, pp. 106, 176. For individual accounts of the deaf-blind, see William Wade, Monograph on the Deaf-Blind, 1904; Supplement, 1908. See also *American Annals of Education*, i., 1831, p. 478; *National Magazine*, xi., 1857, p. 27; *Home-Maker*, March, 1892, p. 1001; *Murray's Magazine*, v., 1889, p. 365; *Educational Bi-Monthly*, ii., 1908, p. 452; *Scientific American*, Supp., lviii., Oct. 29, 1904; *Charities Review*, ix., 1900, p. 550; *American Monthly Review of Reviews*, xxv., 1902, p. 435; *Munsey's Magazine*, xxx., 1904, p. 739; *American Annals of the Deaf*, l., 1905, p. 125; and *passim;* Maud Howe and Florence Howe Hall, "Laura Bridgman, Dr. Howe's Famous Pupil, and How He Taught Her," 1903; Letters and Journals of Samuel Gridley Howe, edited by Laura E. Richards, 1909, ii., p. 51; Proceedings of Convention of American Instructors of the Deaf, 1895, p. 230; 1901, p. 175; Proceedings of American Association of Instructors of the Blind, 1871, pp. 85, 105, 114; 1874, p. 11; 1878, p. 149; Proceedings of National Conference of Charities and Correction, 1907, p. 515; Ohio Bulletin of Charities and Correction, xiii., 1907, i., Feb., p. 47; E. E. Allen, "Education of Defectives," 1900, p. 29; early reports of Perkins Institution; Report, 1906, p. 92; various writings of Helen Keller.

[1] Various estimates have been made of the proportion of the blind who are at the same time feeble-minded—a proportion that is likely to be somewhat larger for blind children than for the adult blind as a whole. One estimate for all the blind of the country is one-sixth. Proceedings of National Conference of Charities and Correction, 1906, p. 259. Another estimate is 9 per cent. *Outlook for the Blind*, ix., 1916, p. 90. Another is 11.8 per cent. *Ibid.*, iii., 1909, p. 15. For blind youth under twenty years of age, an estimate is 15 per cent. Report of Massachusetts Commission for the Blind, 1911, p. 25. Another estimate for such is 20 per cent. Report of Illinois Board of Public Charities, 1908, p. 222. A third estimate is from 10 to 20 per cent. Report of Minnesota School, 1910, p. 39; *Outlook for the Blind*, vi., 1912, p. 65. In the Ohio School 9.4 per cent of the pupils are feeble-minded. Ohio Board of Administration, Publications no. 9, 1916, Mental Survey of Ohio State School for the Blind. At the Perkins Institution 5 per cent of the pupils are feeble-minded, and others backward. At the Pennsylvania Institution 10 per cent of the pupils are of a mentality so low as to warrant their discharge. In the public schools of Ohio there are believed to be 135 feeble-minded children with more or less defective vision.

give considerable attention to this class, and it has been a serious question what to do with them. Some of these children who have applied at the schools have been rejected; others have been allowed to enter.[1] Their presence is found not to be suited to the purposes of the schools, while an influence not altogether wholesome or salutary is exercised. Such children require more than their share of attention; and they interfere with and impede the regular school work of the institutions. It has become the general conviction that children who are at once blind and feeble-minded should be placed in proper institutions for the feeble-minded, or should otherwise be specially provided for.[2]

Government of Institutions

The government of the institutions for the blind is practically the same in the different States. They are all in the hands of boards of trustees, boards of directors, boards

Proceedings of American Association of Instructors of the Blind 1916, pp. 10, 30; Report of Pennsylvania Institution, 1916, p. 103. At the Perkins Institution there have been 96 feeble-minded pupils discharged within 12 years. Report, 1917, p. 38.

[1] At several schools special investigations of the subject have been undertaken. See Reports of Pennsylvania Institution, 1915, 1916, 1917. On the question, see also Report of New York State School, 1900, p. 15; 1916, p. 17; Ohio School, 1907, p. 12; 1909, p. 10; Wisconsin School, 1870, p. 30; Minnesota School, 1910, p. 30; Texas School, 1900, p. 11; Iowa School, 1891, p. 21; Proceedings of Wisconsin Conference of Charities and Correction, 1916, p. 21; Proceedings of New Jersey Conference of Charities and Correction, 1904, p. 54; Quarterly Representing Minnesota Educational, Philanthropic, Correctional, and Penal Institutions, x., 1910, 2, Nov., p. 37; Psychological Review Publications, Psychological Monographs, 1916, no. 9; *Journal of Criminal Law and Criminology*, vii., 1916, p. 444; *Survey*, xxv., 1915, p. 114; *Training School Bulletin*, xi., 1914, p. 40; xiii., 1916, p. 135; *Journal of Missouri State Medical Association*, ix., 1913, p. 238; *Outlook for the Blind*, viii., 1914, p. 90; ix., 1915, p. 29; ix., 1916, p. 90; x., 1917, p. 107; xi., 1918, p. 118.

[2] In 1910 there were reported to be 119 blind persons in institutions for the feeble-minded, or 0.6 per cent of all their inmates. Census Reports, "Insane and Feeble-minded in Institutions," 1914, p. 204. The number is also given as 129. "The Blind in the United States," 1917, pp. 68, 69. It is to be remembered that in some States no provision at all is made for the feeble-minded. Both educators of the blind and of the deaf have been instrumental in creating institutions for the feeble-minded, largely from their peculiar opportunities of coming into contact with them and of realizing the need. In a few States, as Illinois, Minnesota, and Washington, departments for the feeble-minded were established for a time in connection with schools for the deaf and the blind. In Montana such a department is still maintained. In a few cities, as Cincinnati and Cleveland, there are special classes in the public schools for such children. In New Jersey a special appropriation has been made for them at institutions for the feeble-minded.

of managers, or boards of visitors, as they are variously called, or under the direction of State boards of control or other central bodies. The semi-public institutions, which, as we have seen, started as private concerns under private boards of trustees, have so remained. These boards control their affairs, but are subject to such regulation as the state may direct. Such boards are usually self-perpetuating bodies; or are elected by the members of the societies, this being especially the case when membership therein is open to any one on the payment of the prescribed fees. In all cases the members serve without compensation. The size of the boards varies considerably, but they are usually large, having as a general thing from twelve members to twice that number. They are divided into groups or classes, each serving from one to four years.

Where the school is strictly a State institution, the board is usually appointed by the Governor of the State, often with the approval of the State Senate in addition.[1] In several of the States some public officer, occasionally the Governor, but more often the State superintendent of public instruction, is a member *ex-officio*.[2] These boards in most instances act without compensation, being paid only for actual expenses incurred.[3] They are generally

[1] In a few instances boards have for a time been elected by the legislature, or have been self-perpetuating, as in Alabama and Tennessee. The latter is still the arrangement in Georgia. In some cases a certain number of members must be residents of the locality of the school. In Alabama a member is appointed from each of the Congressional Districts of the State, with three from the local District. In several cases the superintendents of the schools are appointed directly by the Governor. In Montana, of the three members of local executive board, two are appointed by the Governor and the State board of education, the third member being the executive officer of the school. Of the members of the Connecticut Institute, two are selected by the State board of education. In the case of the Pennsylvania Institution, the Governor is patron. Of the twelve members of the Perkins Institution one-third were, until 1918, appointed by the Governor of Massachusetts.

[2] Occasionally a blind person is made a member.

[3] In a few States compensation is afforded. In Indiana this may not exceed $300 a year for each member, with $125 in addition for expenses; in Montana, $5 a day, but not to exceed $125 a year, besides expenses; in Texas, $5 a day, in addition to expenses, but with meetings not more often than one day a month; and in Oklahoma, $5 a day, and expenses. In Missouri $100 a year is paid, besides expenses, there being a fine of $5 for every absence from a meeting. In some cases bond is required of trustees for the faithful discharge of their duties.

composed of from three to seven members, and occasionally of a larger number. They are also usually in classes, each serving two, three, four, or five years, or perhaps longer. By all the boards report is made annually or biennially to the Governor, the legislature, or some other public body—and in the case of semi-public institutions possibly also to the society or corporation.[1]

In seven States the schools are under special boards such as we have described, without supervision or regulation from any other public body: Alabama, Georgia, Mississippi, New Mexico, South Carolina, Texas, and Utah.[2] In fourteen States the schools are in the immediate charge of spe-

[1] On the government of the schools in general, see Bureau of the Census, Summary of State Laws Relative to the Care of the Dependent Classes, 1913; United States Bureau of Education, Bulletin no. 47, 1915, p. 801; Proceedings of American Association of Instructors of the Blind, 1888, p. 39; Report of Royal Commission on the Blind, Deaf and Dumb, etc. (England), 1889, iii., p. 456; Bulletin of Iowa Institutions, vii., 1905, p. 429; ix., 1907, p. 168; xiii., 1911, p. 147; Proceedings of 4th Reunion of Officers and Alumni of Ohio School, 1885, p. 151; *American Journal of Sociology*, vii., 1902, p. 53; *American Annals of the Deaf*, xlviii., 1903, p. 348; lviii., 1913, p. 327. In several States the violation of an ordinance of the board of directors constitutes a misdemeanor. The trustees of a school are State officials, to be appointed by the Governor. *People of North Carolina v. McKee*, 68 N. C., 429 (1873). Where on the expiration of the term of the directors of a school for the deaf, the legislature failed to make an appointment as required by law, an appointment made by the Governor was held to be invalid, the original directors being permitted to hold over. *Holt v. Bristol*, 122 N. C., 245, 30 S. E., 1 (1898). See also Report of North Carolina School, 1872, p. 8; Message of Governor of North Carolina, 1872, p. 27. A person may be president at the same time of the institutions for the deaf, for the blind, and for the insane, and may draw more than one salary. *State v. Harrison*, 116 Ind., 300, 19 N. E., 146 (1888). On the general powers and duties of trustees, see *Kentucky Institution for the Education of the Blind v. City of Louisville*, 123 Ky., 767, 97 S. W., 402, 8 L. R. A. (n. s.), 553 (1906); *Kentucky Institution for the Education of the Blind v. Murray*, 155 Ky., 658, 160 S. W., 245 (1913); *Lucas v. Futrall*, 84 Ark., 540, 106 S. W., 667 (1907); *State v. Board of Administration*, 92 Ohio, 457, 111 N. E., 283 (1915); *Chamberlain v. Clayton*, 56 Iowa, 331, 9 N. W., 237, 41 Am. Rep., 101 (1881); *Wall v. Board of Directors*, 145 Cal., 468, 78 Pac., 951 (1904); *Ellis v. North Carolina Institution for the Deaf and Dumb and the Blind*, 68 N. C., 423 (1873); *People of North Carolina v. Bledsoe*, 68 N. C., 457 (1873); *O'Neill v. Sewell*, 85 Ga., 481, 11 S. E., 831 (1890).

[2] In nearly all cases the schools were placed at first in the hands of special boards of trustees, with connection with no other bodies, and it was only later that changes were brought about. In some States there have been various experiments with the organization of the governing boards, and with the number of members which they were to contain. A few schools at the beginning were put under the direction of a State educational institution, of the State department of education, or of certain State officers. In several of the early schools the same board had temporary charge of other classes as well, especially the deaf, and now and then the feeble-minded or insane.

cial boards, but are subject at the same time to the visitation, inspection, supervision, or general regulation of the State board of charities or other central body: [1] California, Colorado, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Montana, New York, North Carolina, Oklahoma (one school), Pennsylvania, and Virginia.[2] Such central organizations are found in thirty-nine of the States, and in all but seven of these have some connection with the schools for the blind. In a dozen States the institutions are directly under the control of the central board, usually designated as the board of control or the board of administration, no special or local board intervening: Arkansas, Florida, Illinois, Minnesota, Nebraska, North Dakota, Ohio, Oregon, South Dakota, Tennessee, Washington, and Wisconsin.[3] There is also often inspection by public welfare boards, civil service commissions, auditing departments, boards of health, and similar bodies.

In some States the schools are related to the State department of education, which may be said to be the increasing tendency. In Idaho, Iowa, Montana, and

[1] As a usual thing, the institutions for the blind are not expressly mentioned as under the oversight of the boards of charities, it being merely provided that all public or all charitable institutions are subject to the supervision of such boards.

[2] In certain of the States, as California, Idaho, Indiana, and Montana, the boards of charities or other central bodies have only more or less financial concern with the schools, the statutes referring to some such connection with the several State institutions. In Georgia, Illinois, Massachusetts, and South Dakota there are special boards of visitors or advisory committees for the schools. In Minnesota there is also a State board of visitors for State institutions, exerting rather a moral supervision. In Texas certain State officers constitute a special board for one school.

[3] The duties of such boards are indicated from the following extract from a letter from the Wisconsin board, which "appoints the chief officers, purchases all the supplies for the institutions, formulates the provisions under which the institutions are managed, and has almost unlimited power with reference to the institutions." See also Bulletin of Iowa Institutions, x., 1908, p. 210. The boards have complete control of the State's "charitable institutions," but a tendency may be noted to broaden their scope, in some cases to include educational institutions as well. The boards have become especially popular in some of the States of the West and of the Middle West. It is claimed for them that they secure greater economy and accuracy, better discipline, and more equitable appropriations; introduce more efficient business methods into the affairs of the institutions; relieve the heads of the institutions from financial problems; visit other States; and keep in touch with the people. See University of Nebraska Studies, Oct., 1905; Ohio Bulletin of Charities and Correction, xiv., 1908, 6, Dec., p. 5.

Oklahoma (one school) the schools are directly under the department. In several States the board of trustees includes, as we have seen, the State superintendent of public instruction as a member *ex-officio*, as in Alabama, Louisiana, Oklahoma (one school), South Carolina, Tennessee, and Virginia. In Kansas the school is under the State board of administration for educational institutions, in West Virginia under the State board of regents, and in Florida under a similar board of control with relation to the State department of education. In Connecticut there is a special board of education for the blind, which exercises general supervision over the school. In Kentucky the school is under a special board of trustees, with supervision by the State department of education. In most States, departments of education are authorized to keep in touch with all the educational institutions of the State, and in this way may have contact with the schools for the blind.[1] In some States, as Colorado, Illinois, Massachusetts, Michigan, New York, North Carolina, Oklahoma, and Pennsylvania, there is inspection by both the departments of charities and education.[2]

[1] In certain cases application for admission is made through the department of education.

[2] In regard to the organization of the several boards which have to do with the education of blind children, it may be stated that in some States, as Indiana, New Mexico, Ohio, Utah, and West Virginia, the law restricts the number of members of any one political party. In connection with the government of schools for the blind, one very regrettable feature has been the political influences which have been allowed in certain instances to interfere with and determine the conduct of schools. Occasionally the playing of "politics" has been of no small moment, perhaps with disastrous consequences to the well-being of the schools. Sometimes the administration of schools has been considered legitimate spoils to the party in power, and appointments have been made as a matter of reward, and removals as a matter of punishment. The evil effects of such proceedings are hard to overestimate, and indeed in an enlightened community are difficult of credence. Public opinion should severely condemn all attempts at political interference in the work of the education of the blind, and those seeking to promote it should be dealt with befittingly. Happily, however, such conduct seems now clearly on the decline in the schools, and we have reason to believe that its end is not far in the future. On the matter of politics in schools, see Proceedings of American Association of Instructors of the Blind, 1888, p. 39; 1896, p. 24; *Mentor*, ii., 1892, p. 88; Proceedings of National Conference of Charities and Correction, 1882, p. 215; Report of Ohio School, 1895, p. 97 (6th reunion of former pupils); 1900, p. 90 (7th reunion).

Procedure in States without Institutions

Certain States, as we have seen, are without special institutions for the education of their blind children, providing for such in a school in some other State, usually a neighboring one. In these States there are a comparatively small number of pupils; and it is considered more economical, as well as more satisfactory generally, thus to contract with an outside school.[1]

Appointments and commitments of children provided for in this way are usually made in the East by the Governor of the State, by the department of charities, or by the special commission for the blind, and in the West by the board of education or of charities.[2] In Maine and Vermont the Governor has charge of appointments. In New Hampshire and New Jersey pupils are placed by the departments of charities, in the former under the supervision of the Governor, and in the latter through a special board for the blind; and in Rhode Island, by the Governor on the recommendation of the board of charities. In Delaware blind children are under the immediate direction of the State commission for the blind. In the District of Columbia commitments are made through the commissioners of the District after application to the institution for the deaf. In Wyoming the education of blind children is directed by the State board of charities and reform, and in Arizona and Nevada by the departments of education.

[1] This arrangement seems to give satisfaction in those States which have it. In the case of New Jersey it is said that the blind are thus educated "at a small fraction of what would be the cost to care for them in an institution" in the State. Report of Department of Charities and Correction, 1906, p. 21. See also *New Jersey Review of Charities and Corrections*, vii., 1908, p. 190; Message of Governor of New Jersey, 1897, p. 20. In Wyoming it is said that the blind "are obtaining an education in well established and well equipped schools in other States and receiving other benefits incident thereto at comparatively slight cost to this State." Report of Board of Charities and Reform, 1910, p. 71. See also Message of Governor of Oregon, 1897, p. 31; 1899, p. 25. On the other hand, see Proceedings of New Jersey Conference of Charities and Correction, 1908, p. 216; Message of Governor of Maine, 1895, p. 17.

[2] On the arrangements for sending children to outside schools, see Proceedings of National Conference of Charities and Correction, 1902, p. 40. We have already noticed that colored children in West Virginia are sent outside.

CHAPTER XV

DAY SCHOOLS FOR THE BLIND

Plan of the Day School

The schools for the blind organized in the United States have as a general thing been boarding institutions where the pupils have lived during their attendance thereat. This has been for the reason that, blind children being scattered over an entire State, it has appeared the advantageous procedure to gather them all into one central institution for their instruction. In time, however, as the number of these children has increased with the growth of certain communities, especially large cities, the question has arisen of providing for such by means of a local school on the order of that for children with sight, to be as fully a part of the city's or State's school system.

The principle of the day school for the blind is really but the manifestation of a movement, found in no less evidence in the education of the deaf, to reduce institutional life to its lowest possible limits. It results from a belief, shared on a wider and wider scale, not only among educators, but among leaders in social thought generally, that the institution is more or less out of place in modern conceptions of child welfare, and is to be accepted only in the absence of anything better. An illustration of this view is found in the report on children of the National Conference of Charities and Correction in 1906:

> Institutional care of healthy, normal children is objectionable. . . . Institutional care for educational purposes is necessary for a portion of the deaf and blind children . . . but it is recognized that in large cities public schools can be provided for many deaf and blind children.[1]

[1] Proceedings, p. 88.

In the development of the movement, it is likely that the day school will become more and more common in centers of population, having a place in their regular school systems. Beyond such centers, however, it is doubtful if the plan will spread very far in the near future; and it is possible that States not having large cities will be without day schools for many years to come. In any event, in nearly all the States there will be need for the continuance of the institutions, at least to accommodate children living in rural sections.[1]

Arguments for the Day School

The great argument for the day school for the blind is that it is not well that children be "institutionalized." The habits and practices of the institution life are regarded as at variance with those of the normal life which should be enjoyed by all children, and to which they are entitled this applying no less in educational matters than in others. It is the home that should be the center of the affection and interests of every child. No matter whether the institution affords more desirable surroundings than those found in particular homes from which children come, yet while in the institution they are removed from the line of growth of the normal child. The routine life and the associations of the institution are likely to have an effect on the child not altogether salutary or wholesome; while in the continued congregation of children of one distinguishing peculiarity, they may become less ready to meet the full relations of after life. On the other hand, in the institution many important lessons in domestic economy may fail to be learned, while the attitude towards life, socially, economically, and morally, which is given in the home, may in the greatest measure be lost.

The argument for the day school may be stated in even more positive and concrete terms. During his attendance at

[1] It has also been suggested that blind children might attend a day school during their first school years, later to be transferred to an institution. On this question, see Report of New York Institute, 1915, p. 29; Pennsylvania Institution, 1909, p. 14.

it, the child does not become a stranger in his own home, while there is in turn kept alive a feeling of family responsibility. Parents also become much more willing to have their child in school, with the result that a larger proportion of blind children are induced to enter school than could be prevailed upon to seek admittance at an institution. The day school at the same time becomes a part of the known educational system. The equal standards in the instruction of the blind are at once recognized, while the public in general becomes better acquainted with their possibilities and with their limitations. Finally, a not unimportant factor in the situation appears in the lessened cost of the day school. For it no costly special plant is necessary, nor are large amounts to be paid for food, supplies, attendants, and the like. At present the average *per capita* cost for its maintenance is practically half that for the institution.

Arguments against the Day School

The main argument for the institution for the education of the blind is that they form a small but distinct portion of the community, that special methods have to be employed for their instruction, and that for meeting the situation as a whole this arrangement is best adapted. In the operation of day schools extraordinary duties are imposed upon the regular schools, not only in the providing of special teachers, but in the furnishing of escort for pupils to and from their homes. It remains a question, also, just how far the blind are on a level with their sighted comrades in their school life, or how far they are really absorbed into the ranks of the latter. In an institution, for its part, blind children may be under intelligent and helpful supervision their entire time, with proper provision for study and for all else that is concerned in their well-rounded development, influences being exerted that perhaps are quite absent from the home.[1]

[1] In some institutions pupils living near by are permitted to spend one or more days at home during the week.

Advantages of the institution are also to be stated in more concrete form. In none but the largest of day schools can well-graded classes be expected; and in the want of such an arrangement pupils who are slow to learn are likely to have a hard and discouraging time of it. Moreover, in the institution there may be a relative freedom from a course of study standardized to meet the needs of children with sigl t, whereby is permitted the adoption of a course better adapted for the particular wants of the blind. In the association, furthermore, with children in a similar condition, or in the life outside the classroom, there is acquired a general information, often of a very practical character and value, which is not so fully to be had in any other way. In the institution, lastly, with its usually larger and more centralized resources, there may be more satisfactory results along lines other than those for mental development. To the physical well-being of the blind child, which is too often neglected, attention may be given in appropriate measure, with the furnishing of suitable facilities for general physical culture. In the study of music opportunities may be afforded on a scale and with a range hardly possible elsewhere. Finally, proper provision for manual training, including necessary equipment, is more likely to be available at an institution.[1]

Growth and Present Organization of Day Schools

The day school movement, though materializing late, is not a wholly new conception. It has been considered

[1] For arguments for and against the day school, see Proceedings of American Instructors of the Blind, 1892, p. 15; 1910, p. 31; 1912, p. 53; Proceedings of American Association of Workers for the Blind, 1911, p. 04; *Outlook for the Blind*, ii., 1908, p. 48; vii., 1914, p. 117; Report of United States Commissioner of Education, 1913, i., p. 471; 1915, i., p. 503; Report of Pennsylvania Institution, 1910, p. 26; Report of Cleveland Board of Education, 1910, p. 35; Report of Milwaukee Board of School Directors, 1912, p. 55; Proceedings of National Education Association, 1902, p. 851; 1903, p. 998; 1908, p. 1137; 1910, p. 1050; David Mitchell, "Schools and Classes for Exceptional Children" (Cleveland Educational Survey), 1916, p. 24. See also A. G. Warner, "American Charities," rev. ed., 1908, p. 263; R. R. Reeder, "How Two Hundred Children Live and Learn," 1910, pp. 47, 117; "Philanthropy and Social Progress," 1893, p. 172; *Journal of Education*, lxxii., 1910, p. 15.

from time to time during the entire period of the education of the blind in the United States.[1] Its actual appearance, however, was not until the beginning of the twentieth century.[2] The first city to take up the work was Chicago in 1900.[3] Since then day schools have been established in some thirteen cities—Chicago, Cincinnati, Cleveland, Toledo, Milwaukee, Racine, Detroit, New York, Newark, Jersey City, Los Angeles, New Orleans, and Houston.[4]

Day schools are thus now found in nine States. In California, Louisiana, Michigan, and Texas they are organized and supported merely as parts of the local educational systems. In New Jersey and New York there is express statutory authorization for their establishment.[5] In Illinois, Ohio, and Wisconsin not only is there legal permission for their creation, but State funds are granted for their maintenance. Where day schools are established under direct legal enactment, application by the local authorities is usually to be made to the State department of education,[6] a minimum number of pupils being specified for a class.[7] As a rule the law makes similar provision for the deaf, the crippled, and other physically defective classes. The amount allowed for each blind pupil ranges from $160

[1] See Report of Massachusetts Board of Charity, 1866, p. lvi.; Report of Perkins Institution, 1858, p. 8; 1868, p. 10; 1869, p. 4; 1871, p. 26; 1874, p. 119; Pennsylvania Institution, 1871, p. 15; Ceremonies at Laying of Corner Stone of New York State School, 1866, p. 39; Proceedings of American Association of Instructors of the Blind, 1871, p. 17; *Outlook for the Blind*, ii., 1908, p. 67.

[2] In certain cities, especially New York, Cleveland, Chicago, and Milwaukee, day schools have been largely promoted by associations for the blind.

[3] This came near being started in 1892, after the abandonment of the plan for a second institution in Illinois, which was to have been located in Chicago. See *Problem*, i., 1900, p. 82; Report of Chicago Board of Education, 1901, pp. 17, 106; 1907, p. 180; *Outlook for the Blind*, i., 1907, pp. 30, 37.

[4] Day schools in one or two smaller cities have been discontinued. For table as to day schools, see Appendix B.

[5] In New York the requirement does not extend to cities in which there are already existing schools, including schools under private direction. In some cases schools were started before the enactment of a law.

[6] Special inspectors may be appointed by this department to keep in touch with the work.

[7] In Ohio and Wisconsin the number is 3, and in New Jersey and New York 10. In New Jersey the maximum number is 15. In New York if there are less than 10, provision may be made at some other center.

to $250.[1] In one or two cases additional sums may be expended for the board of certain pupils.[2] In Minnesota, Pennsylvania, and Washington there are also permissive statutes for day schools, though as yet unavailed of.[3]

In their practical organization, day schools consist of nothing more than the installation of appropriate facilities and appliances for the blind in the regular public schools. For a certain number of children living within convenient distance, centers are opened in a school building.[4] In each a special teacher is employed for assistance in the learning of lessons and for general advice.[5] The pupils, after due preparation, especially as they pass from the lower to the higher grades, go for recitation to the regular classrooms in company with the seeing children. In most cases provision is also made for gymnasium work, for music, and for manual training.

Special Classes for Partially Sighted Pupils

In connection with day schools for the blind, there has arisen the question of similar provision for pupils who, while not actually "blind," yet have eyesight so impaired as to allow them to carry on work in the regular classes

[1] In Illinois the amount is $160, in Wisconsin $200, and in Ohio $250. In Wisconsin it was formerly $150, and in Ohio formerly $200. In New Jersey a special sum may be charged for pupils from outside.

[2] In Wisconsin $125 is allowed for board and transportation. In Ohio $250 is allowed for the board of persons under twenty-one years of age, but not at the home of the parent or guardian, the total number so provided for not exceeding one-fourth of the entire enrollment. The arrangement here is known as the "cottage plan." Residence of each child is usually not longer than one year.

[3] In Minnesota the minimum number of pupils is 5, and the amount allowed $100. In Washington defective classes generally are included, which seems also to be the case in Pennsylvania.

[4] It is customary to furnish guides to and from school when these are not otherwise provided for, and to pay street car fares as well. In several cities there is co operation with local associations for the blind, pupils being allowed to avail themselves of the facilities offered by such.

[5] The number of pupils to a class seldom exceeds a dozen, and is often much less. In cities where there are several centers, there is usually a general supervising teacher. In Cleveland there is a special agent for vocational guidance, who also keeps in touch for a few years with those who have completed their course. In one or two cases certain instruction is provided during vacation periods.

only with the greatest difficulty. Such pupils are in fact "border line" cases, in the possession of too much sight to entitle them to admission to schools or classes for the blind, but of too little to permit them advantageously to continue with children who have normal sight.[1] We have already had occasion to refer to the considerable proportion of children with defective sight in the public schools of the country.[2] The number whose state is so serious as to call for special consideration cannot readily be determined. In Massachusetts the proportion of such children to all the school children of the State is said to be 0.4 per cent.[3] In any event, we may be sure that in nearly all communities, especially large cities, there are not a few children in such condition.[4]

Attention, long overdue, is now being directed to the problem, which may be the beginning of a very important movement. In 1913 the cities of Boston and Cleveland commenced to make provision for partially sighted children in their public schools, their example being later followed by New York City, Detroit, and other cities in the States of Massachusetts, Ohio, and New York.[5] The number of children affected is now several hundred.

In "sight-saving" or "conservation of vision" classes, as they are called, the aim is to make use of whatever vision is left, without resort to finger-reading, as is the case with the really blind, but under conditions most favorable for

[1] Vision of such pupils is sometimes technically defined as being from 6/60 to 1/15. The children especially affected are those suffering from refraction troubles or from diseases causing eyestrain or interference with the vision.

[2] See pp. 176, 177.

[3] Report of Massachusetts Commission for the Blind, 1916, p. 69. In this State there are also said to be 2,306 children in need of special provision. *Ibid.*, 1915. p. 34.

[4] Of 63 cases in special classes in Ohio, 25.4 per cent are due to myopia; 19.0 per cent, to congenital cataract; 20.7 per cent, to maculæ cornea; 11.1 per cent, to choroiditis; and 23.8 per cent, to miscellaneous causes. *Ohio Teacher*, xxxviii., 1916, p. 53. Of 197 cases in Massachusetts regarded as suitable for special classes, 5.6 per cent are due to congenital cataract; 25.4 per cent, to myopia; 31.4 per cent, to hypermetropia; 15.7 per cent, to scars of the macula; and 21.8 per cent, to miscellaneous causes. Report of Massachusetts Commission for the Blind, 1916, p. 70.

[5] In Massachusetts there are now included Boston, Cambridge, Lynn, Springfield, and New Bedford; in Ohio, Cleveland, Cincinnati, Toledo, Ashtabula, Mansfield,

the eye.[1] The best possible lighting arrangements are provided, and very large type is employed.[2] After preparation under a special teacher, work is continued in the regular classes. As most day school laws refer to children whose vision is so defective as to prevent their attendance at regular schools, sight-saving classes may be included in the application of such laws no less than classes for the actually blind.[3]

Alliance, and Lorain; and in New York, New York City, Buffalo, and Rochester. Classes in one or two cities have been discontinued.

[1] Medical attention is as a usual thing regularly afforded. If the sight of a child gets worse, or cannot be improved beyond 6/60, he is regarded as "blind."

[2] The type is most often 36-point. Use is made of soft pencil on unglazed paper, and after the fifth grade largely of the typewriter.

[3] On the question of classes for partially sighted children, see Report of Massachusetts Commission for the Blind, 1914, p. 70; 1916, pp. 16, 49; 1916, p. 63; Report of Boston School Committee, 1913, p. 54; 1914, p. 32; Report of Cincinnati Board of Education, 1916, p. 255; Report of United States Commissioner of Education, 1915, i., p. 507; Proceedings of American Association of Instructors of the Blind, 1916, pp. 12, 88; Report of Minnesota School, 1910, p. 33; Pennsylvania Institution, 1914, p. 34; 1916, p. 109; Cincinnati Board of Health, Bulletin, Sept. 18, 1915; Report of Superintendent of Schools of Boston, 1917, p. 90; W. C. Posey, "Hygiene of the Eye," 1918, p. 95; Louis Stricker, "Blindness in Hamilton County," 1918, pp. 66, 91; *Oulook for the Blind*, x., 1916, p. 9; xii., 1918, pp. 67, 71; *Archives of Ophthalmology*, xliv., 1915, p. 186; *Ohio State Medical Journal*, xiii., 1917, p. 813; xiv., 1918, p. 81; *Cleveland Medical Journal*, xvii., 1918, p. 245; *American Journal of Public Health*, vii., 1917, p. 782; *Coöperation*, Philadelphia, March, 1915; *Ohio Teacher*, xxxviii., 1916, p. 32; *Boston Transcript*, May 20, 1916.

NOTE TO CHAPTER XV. On the organization and work of day schools, see Report of New York State Commission for the Blind, 1906, p. 30; Proceedings of International Conference on the Blind, 1914, p. 450 (England); American Encyclopedia of Ophthalmology, 1916, ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916; A. J. Winnie, "History and Handbook of Day Schools for the Deaf and the Blind," Wisconsin, 1912, p. 117; Proceedings of National Education Association, 1910, p. 1044; 1912, p. 1318; 1916, p. 820; Proceedings of American School Hygiene Association, 1916, p. 226; 1917, p. 92; L. P. Ayres, "Cleveland School Survey," 1917, p. 207; Report of Chicago Board of Education, 1902, p. 67; 1907, p. 180; 1914, p. 356; Report of Wisconsin Department of Public Instruction, 1910, p. 51; New York City Department of Education, Reports on Defective Classes, 1915, p. 53; Report of United States Commissioner of Education, 1881, p. ccxvi.; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 42; Minnesota Board of Control, Quarterly Bulletin, Sept., 1915, p. 86; *New Jersey Review of Charities and Corrections*, vi., 1907, p. 14; *Training School Bulletin*, Sept., 1908; *Problem*, i., 1900, p. 70; *Education*, xxxi., 1910, p. 8; *Journal of Education*, lxv., 1907, p. 287; lxxii., 1910, p. 76; *Educational Bi-Monthly*, v., 1910, p. 117; *Ophthalmic Record*, xiii., 1904, p. 458; *Journal of Missouri State Medical Association*, ix., 1913, p. 238; *Survey*, xxii., 1909, p. 5; *Outlook for the Blind*, ii., 1908, p. 67; vii., 1914, p. 17; xi., 1917, pp. 19, 25; *Voices from Darkland*, June, 1916; *Cincinnati Globe*, Dec. 17, 1917; *Chicago Tribune*, Feb. 2, 1902; Report of Pennsylvania Institution, 1911, p. 15; 1915, p. 29; Ohio School, 1909, p. 11.

CHAPTER XVI

PROVISION FOR THE HIGHER EDUCATION OF THE BLIND

Question of a National College

In a complete system of education for the blind, we might expect that some provision would be made for the higher education of those pupils of the various schools of the country who might be fitted for it and who might be benefited by it.[1] As the final step in the work of their instruction in America, it has been proposed that a special college be created, prepared to receive blind students from all parts of the country.[2]

To undertake this task, the United States Government has been looked to in the first instance. It has been regarded as representing the centralized power of the land, and as the most suitable agency to reach all the blind. A further ground has been adduced in the fact that Congress has established in the District of Columbia an institution

[1] An additional reason advanced for such higher education is that thereby the standards of the schools would be raised and perhaps made in more general agreement. On the number of graduates from schools likely to enter the college, see *Problem*, ii., 1901, p. 29.

[2] On the matter of the higher education of the blind, see *Education*, xx., 1900, p. 298; Report of Connecticut Board of Education for the Blind, 1900, p. 4; *Charities Review*, ix., 1899, p. 322; Proceedings of American Association of Instructors of the Blind, 1888, p. 23; Proceedings of American Association of Workers for the Blind, 1905, p. 11; 1907, p. 128; Proceedings of National Education Association, 1900, p. 671; Report of Minnesota Board of Control, 1908, p. 364; Report of Ohio School, 1893, p. 108 (5th reunion of former pupils, 1890); 1889, p. 11; Maryland School, 1901, p. 10; 1903, p. 69; Western Pennsylvania Institution, 1914, p. 17; Pennsylvania Institution, 1913, p. 32; Report of United States Commissioner of Education, 1915, i., p. 506; J. W. Welch, "Abilities and Achievements of the Blind," 1905, p. 249; *Problem*, i., 1900, p. 74; ii., 1901, p. 86; iii., 1902, p. 47; iv., 1903, p. 18; Bulletin of Missouri National College Association for the Blind, 1895; Supplemental Bulletin, 1897; Address of A. I. Wilson, before 3d Annual Convention of Missouri National College Association for the Blind, 1897; Address before American Blind People's Higher Education and General Improvement Association, 1898; Address of D. W. McGill, before same body, 1898; Voting Bulletins of same body, 1st, 1897; 2nd, 1898 (Oct.); 3rd, 1899 (Sept.).

for the collegiate education of the deaf; and it has been thought that it might come to feel a corresponding duty with respect to the blind.

The matter of the creation of a National college for the blind by the United States has received frequent attention from educators and friends of the blind, and from the blind themselves. In 1871 the matter was definitely taken up at the meeting of the American Association of Instructors of the Blind.[1] A few years later on the establishment of the American Printing House for the Blind, to which assistance was voted by Congress, it was suggested that a college might be realized in connection therewith, but the scheme did not meet with general approval.[2] In 1886 Congress was formally asked by the Association of Instructors to create a special college, but without affirmative result.[3] Since that time there have been occasional efforts on the part of certain individuals to induce Federal action, such now and then taking the form of a memorial from some State legislature.[4] Congress, however, has never felt itself called upon to move in this direction.[5] Suggestion has also been made that private philanthropy be invoked for the establishment of such an institution, and steps have even

[1] Proceedings, 1871, pp. 13, 30, 31.

[2] See Chapter XXVII. It may also be noted that it was the hope of Dr. Howe of the Perkins Institution to have a college in connection with a National conservatory of music, which should be jointly controlled by the several States and the Federal Government. "The different States," he said, "would doubtless pay the cost of the education of a select number at the National institution." Report of Perkins Institution, 1869, p. 21. See also *Journal of Social Science*, ii., 1870, p. 230. In Massachusetts in 1876 (Laws, ch. 6) there was incorporated an institution, the "American College and Musical Conservatory for the Blind," with power to hold property to the value of $200,000. It, however, never materialized.

[3] See Committee of American Association of Instructors of the Blind, Letter to Chairman and Members of Committee on District of Columbia, 1886; Proceedings of American Association of Instructors of the Blind, 1886, p. 64; Report of Maryland School, 1886, p. 10.

[4] See Laws of Minnesota, 1909, p. 709; Laws of North Carolina, 1909, p. 1366. In North Carolina action was taken by a unanimous vote. See Report of Minnesota Board of Control, 1908, p. 364; *Outlook for the Blind*, iii., 1909, p. 19.

[5] On efforts to induce Congress to act, see *Problem*, ii., 1901, p. 49; *International Record of Charities and Correction*, i., 1886, p. 27; *Mentor*, iii., 1893, p. 321; *Outlook for the Blind*, iii., 1909, p. 19; Proceedings of American Association of Instructors of the Blind, 1904, p. 17; 1910, p. 25.

been considered of raising funds by general subscription; but little attention has ever been given to plans of this character.[1]

Substitute for a Special College: Scholarships in Regular Colleges

If in the existing circumstances a National college for the blind does not appear to be likely, nevertheless hopes for the higher education of the blind need not be abandoned. Another recourse is available, which may answer as well as, if not better than, a special institution. This is the providing of scholarships for the blind in regular colleges and universities. Such is now being generally regarded as the correct solution of the problem.[2]

To scholarships but one serious objection is to be offered, namely, the difficulties which may be encountered by the blind in colleges the student bodies of which are made up of persons having sight. These difficulties, however, are not of insuperable character, especially in cases where there is a full determination to surmount them, as has been proved in divers instances. The advantages of the scholarships, on the other hand, are several. In the first place, they involve far less cost than a special institution would require, both in outlay necessary for its equipment and in its actual running expenses. This is all the more true because of the limited number of the blind to be benefited in any event. By means of scholarships, again, the blind are enabled to attend the best and most suitable colleges, instead of being restricted to a single one. Finally, in the regular colleges

[1] In several States there have been organized committees of graduates of the schools for the purpose of securing a college, though in most cases efforts have been directed towards action by the National Government.

[2] For arguments for the scholarships over the special college, see *Problem*, i., 1900, p. 10; *Education*, xx., 1900, p. 298; *Outlook*, lxxxvi., 1907, p. 939; Proceedings of American Association of Workers for the Blind, 1911, p. 103; Proceedings of American Association of Instructors of the Blind, 1880, p. 51; 1910, p. 25; Report of Kansas School, 1880, p. 12; 1884, p. 5; Pennsylvania Institution, 1911, p. 18.

the blind are brought into contact with the seeing, which is for the good of both.[1]

For the creation of these special scholarships for the blind, action may be bespoken both on the part of the National Government and on the part of the individual States—unless private benevolence should choose to assist in the undertaking. Proposals have been duly made to Congress for the establishment of scholarships for the blind of the country at large—and in this case with greater likelihood of success than in the case of a special college. Application has been made from time to time, especially since the year 1896, by instructors of the blind and by organizations of the blind; and the question has been agitated in not a few quarters. On several occasions the matter has come near receiving favorable attention at the hands of Congress, though as yet final action has been postponed.[2]

[1] Despite the apparent analogy of a special college for the deaf, there is in fact a much less need for a special institution for the blind. The methods of education of the blind resemble to a far closer degree those in regular colleges than do the methods of the deaf.

[2] Beginning with the year 1899, a number of bills have been presented in Congress in respect to the higher education of the blind. In 1901 the committee on education of the House of Representatives made a special report, providing for the education of blind children in the District of Columbia and the territories, and creating scholarships for blind students in colleges generally, with a request for an appropriation of $75,000. A bill was introduced in line with these recommendations, but Congress adjourned before definite action could be taken. In 1902 a bill was offered in the Senate, creating a National commission for the education of the blind, to consist of three members, and to be appointed by the President of the United States, with duties similar to those of the previous House plan. The bill was referred to the committee on education and labor, and was not reported out. In 1904 a bill was presented in the House of Representatives, creating a commission, the duties of which should be to discover and make examination of blind candidates for higher education, and to provide scholarships for those found successful, the sum of $50,000 to be appropriated for the purpose, and the work to be under the Department of the Interior, with the immediate direction in the hands of the Bureau of Education. This bill failed to be reported out of the committee on education, to which it was referred. In 1906 a somewhat similar bill was presented. See 56th Congress, 1st sess., H. R. 4347, Dec. 15, 1899; 56th Congress, 2nd sess., H. R. 12,221, Dec. 3, 1900; 56th Congress, 2nd sess., Report no. 2424, "Education of the Blind," Jan. 23, 1901; 57th Congress, 1st sess., H. R. 18, Dec. 2, 1901; 57th Congress, 1st sess., S. 4038, United States Senate Committee on Education and Labor, Hearings, Feb. 19, 1902; 57th Congress, 1st sess., Report, no. 1318, H. R. 18, Bill Reported by Committee on Education, April 2, 1902; 58th Congress, 2nd sess., H. R. 14,538, March 29, 1904; Proceedings of American Association of Workers for the Blind, 1905, pp. 11, 49; *Problem*, ii., 1901, pp. 25, 27; *Outlook for the Blind*, ii., 1908, p. 50.

Whatever may be the course eventually to be taken by the Federal Government, there seems to be a rather plain duty before the several States in the matter of scholarships. In this way the higher education of the blind is but being provided for on the same terms as is that for persons who have sight.[1] The particular action called for is in the main the appropriation of a small sum for each blind student to secure the aid of a seeing person to read to him—a sum which need not be in excess of a few hundred dollars for one year. In point of fact, full "scholarships," which would include contingent expenses as well, are not thus created, but only the rendering of assistance to enable a blind person to meet the demands imposed on him. Tuition at a State university is in general free.

The States of the Union are now beginning to take action along this line, the first one being New York in 1907. Special assistance, whether by scholarships or otherwise, is at present afforded in the States of New York, Missouri, South Carolina, Ohio, Kansas, California, Minnesota, New Jersey, Indiana, and Wisconsin. In them it is usually provided that the student aided be in good and regular standing, and a candidate for a degree, and as a rule attending an institution within the State, often the State university.[2] The amount allowed is generally $300,[3] with sometimes a limitation upon the number to be assisted in one year.[4] Direction of this education is in the hands of the State school for the blind in California, New York, Minnesota, South Carolina, and Wisconsin; of the State board of administration in Kansas and Ohio; of the State department of education in New Jersey; and of the county court

[1] A college course in connection with the State school has also been suggested. See Report of Kansas School, 1886, p. 9.

[2] There must usually be evidence of inability to make payment. Often report as to progress is required at stated periods.

[3] In South Carolina the amount is $150. In Ohio it is left to the discretion of the State school. In New Jersey $200 additional is allowed for fees.

[4] The number in Missouri is 8, in Minnesota 5, and in South Carolina 4. In Wisconsin not more than $1,500 may be expended in one year, and in California not more than $4,200, the limit having formerly been $3,000. In several cases a previous residence in the State of a certain number of years is required.

in Missouri. In Indiana institutions of higher education in the State are required to furnish a reader at the request of blind students in attendance.[1]

Certain private institutions of learning have also been generous in allowing scholarships to the blind.[2] Occasionally a private organization has undertaken to assist in the matter. To the graduates of a few of the schools aid is afforded at college by loans or otherwise.

[1] This is to be of three hours a day.
[2] See *Outlook for the Blind*, viii., 1915, p. 153.

CHAPTER XVII

PROVISION FOR THE EDUCATION OF THE BLIND BY STATES

In the several preceding chapters we have considered the provisions which have in general been made for the education of blind children in the United States, including the organization of institutions, the arrangements for pupils sent to schools in other States, the plan of the day school, and the measures designed for higher education. In the present chapter we shall examine the provisions in the several States individually, determining to what extent and in what manner instruction has been undertaken in each.[1]

Alabama. A school for the deaf was established at Talladega in 1858, into which in 1867 the blind were allowed to enter.[2] In 1888 a separate institution, the Alabama School for the Blind, was set up.[3] In 1891 the Alabama School for the Negro Deaf and Blind was created.[4] All these schools are controlled by a single board of trustees of thirteen members, including the Governor and the State superintendent of public instruction.[5]

Arizona. Blind children have since 1891 been sent to

[1] In connection with several of the homes for very young blind children, as well as in a few of the homes for adults, a certain amount of instruction is afforded. See Chapter XXX.

[2] Laws, 1867, p. 550; 1869, ch. 107; 1870, p. 95; 1871, p. 89; 1879, p. 34; 1885, p. 158. See also Laws, 1860, p. 344. In 1870 a school was started at Mobile, which lasted a few years.

[3] Laws, 1887, pp. 56, 70. The joint school was called the Alabama Institution for the Education of the Deaf, Dumb and Blind, and the Alabama Institution for the Deaf, Dumb and Blind. The school for the Blind was called the Academy for the Blind till 1900.

[4] Laws, 1891, ch. 209.

[5] Laws, 1889, p. 29; 1891, p. 458; 1893, p. 943; 1900, p. 23; 1901, p. 24; 1903, p. 45; Code, 1907, §§ 1933–1953.

schools in neighboring States, the State board of education being authorized to contract for their education.[1]

Arkansas. A private school was opened at Arkadelphia in 1860, which in 1868 was removed to Little Rock and taken over by the State.[2] The Arkansas School for the Blind is in the hands of the State board of control for charitable institutions.[3]

California. The California School for the Deaf and Blind was established in San Francisco in 1860, which in 1866 was removed to Berkeley.[4] It is controlled by a board of six directors, with supervision by the State board of charities and corrections.[5] There is a day school in Los Angeles, opened in 1916, and conducted by the city. Provision is made for higher education[6].

Colorado. A school for the deaf was opened at Colorado Springs in 1874, in which in 1883 a department for the blind was created.[7] The Colorado School for the Deaf and the Blind is governed by a board of five trustees, and is visited by the State departments of charities and education.[8]

[1] Laws, 1891, ch. 94; 1895, ch. 10; 1912, chs. 9, 36; Rev. Stat., 1913, Civ. Code, §§ 2854–2863, 4494–4497. A department for the blind may be created at the State University when there are as many as five applicants.

[2] Laws, 1859, p. 45; 1867, p. 550; 1868, p. 154. The school while in private hands received aid from the State practically from its start.

[3] Laws, 1875, p. 134; 1879, p. 83; 1883, pp. 182, 196; 1893, pp. 223, 273; 1895, ch. 78; 1911, ch. 184; 1915, ch. 108; Dig. Stat., 1916, §§ 4667–4674, 4769–4809. In 1879 the name of the school was changed from the Arkansas Institute for the Education of the Blind. In 1893 it came under its present control, before which time it was governed by a special board of trustees.

[4] Laws, 1860, pp. 211, 277; 1861, p. 81; 1864, pp. 211, 397; 1866, pp. 540, 579; 1868, p. 156; 1874, pp. 36, 115, 751; 1876, p. 686; 1880, p. 21.

[5] Laws, 1903, p. 388; 1905, p. 488; 1913, pp. 235, 412, 1443; 1915, p. 20; Pol. Code, 1915, §§ 2236–2282; Gen. Laws, p. 239. The school was first called the California Institution for the Instruction of the Deaf, Dumb and Blind; in 1861, the Institution for the Education and Care of the Indigent Deaf, Dumb and Blind; in 1867, the Institution for the Education of the Deaf, Dumb and Blind; in 1905, the Institute for the Deaf and the Blind; and in 1913, the School for the Deaf and the Blind. The State board of control has charge of the financial affairs of the school. In 1915 provision was made for the eventual separation of the blind from the deaf.

[6] Laws, 1913, p. 806; 1915, p. 1329; 1917, p. 485; Gen. Laws, p. 875.

[7] Laws, 1874, p. 101; 1881, p. 206; 1883, p. 269; 1885, p. 277; 1887, p. 394.

[8] Laws, 1891, p. 388; 1895, p. 223; 1909, pp. 324, 333; Ann. Stat., 1912, §§ 5009 5034. The school was called the Colorado Institute for the Education of the Mute and Blind till 1890, when it became the Institution for the Education of the Deaf and the Blind. It received its present name in 1895.

Connecticut. In 1832 the State began sending blind children to the Perkins Institution in Massachusetts, a policy that has continued to the present, though only advanced pupils are now so provided for. In 1888 a private school for young blind children was established at Hartford, to which since 1893 the State has made appropriations. It is a part of the Connecticut Institute for the Blind, which includes also a nursery department and an industrial department, all under a board of twenty-one trustees. A special board of education for the blind has charge of the instruction of blind children.[1]

Delaware. Blind children are sent to schools in Pennsylvania and Maryland, this policy having been begun in 1835. The State commission for the blind has charge of their education.[2]

District of Columbia. On the establishment of a school for the deaf in Washington in 1857, a department was created for the blind. In 1865 this department was closed, and since that time blind children have been sent to Maryland for education, under the direction of the commissioners of the District, after application to the president of the Columbia Institution for the Deaf.[3]

Florida. The Florida School for the Deaf and the Blind was opened at St. Augustine in 1885.[4] It is in the hands of the State board of control of educational institutions, with general supervision by the State department of education.[5]

[1] Laws, 1829, p. 101; 1893, ch. 156; 1895, chs. 303, 319; 1899, ch. 218; 1901, ch. 164; 1903, ch. 62; 1905, ch. 66; Rev. Laws, 1902, §§ 1831, 2285–2295.

[2] Laws, 1835, pp. 317, 356; 1837, p. 66; 1841, p. 356; 1843, p. 418; Rev. Stat., 1852, p. 138; Laws, 1853, p. 118; 1860, ch. 119; 1865, ch. 553; 1866, chs. 18, 19; Rev. Stat., 1852–1874, p. 245; Laws, 1875, ch. 58; 1893, chs. 645, 838; Rev. Stat., 1852–1893, pp. 388–390; Laws, 1899, ch. 245; 1907, ch. 143; 1909, p. 140; 1913, p. 265; Rev. Stat., 1915, §§ 414, 2585–2592, 3743. The Justices of the Superior Court were formerly trustees *ex-officio* for the education of the blind, recommending children to the Governor.

[3] Stat., 1857, ch. 46; 1865, ch. 50; 1899, ch. 424; 1908, ch. 198; U. S. Comp. Stat., 1916, §§ 9360, 9361. Until 1908 the commitment of children was in the hands of the President of the Columbia Institution for the Deaf.

[4] Laws, 1883, ch. 3450.

[5] Laws, 1895, ch. 4362; 1903, ch. 5209; 1905, ch. 5384; 1909, ch. 5927; Comp. Laws, 1914, §§ 416, 416jj, 416ll, 416rr, 417c–425. The school was called the Institute for the Blind, Deaf and Dumb till 1903, when it became the School for the Blind,

Georgia. On the opening of the State school for the deaf at Cave Spring in 1846, some blind children were placed in it for instruction.[1] The Georgia Academy for the Blind was established at Macon in 1851.[2] It is governed by a board of seven trustees.[3]

Idaho. Before the creation of an institution in the State, blind children were sent to schools in other States.[4] The Idaho State School for the Deaf and the Blind was established at Boise in 1906, being removed to Gooding in 1910. It is directed by the State department of education.[5]

Illinois. A private school was opened at Jacksonville in 1848, which was taken over by the State the following year.[6] The Illinois School for the Blind is controlled by the department of public welfare, the department of education also having powers of inspection.[7] In Chicago there are classes for blind children in connection with the public schools, begun in 1900, and operating under a State law.[8]

Indiana. The Indiana School for the Blind was established at Indianapolis in 1847, before which time some

Deaf and Dumb. The present name was given in 1909. In 1895 a department for colored pupils was opened. The first trustees of the institution consisted of the State board of education; in 1903 it was placed under a special board; and in 1905 it came under the present plan.

[1] Laws, 1845, p. 25.

[2] Laws, 1851–1852, p. 4; 1854, pp. 16, 97; 1855–1856, p. 10; 1857, p. 11; 1859, p. 15; 1860, p. 35. In 1863 the school was removed to Fort Valley, where it remained a short time.

[3] Laws, 1868, p. 13; 1870, pp. 455, 494; Code, 1873, p. 165; Laws, 1883, p. 61; Ann. Code, 1914, §§ 1333, 1401–1415. Until 1871 the school was known as the Institution for the Blind. In 1882 a department was opened for colored children. The school also has a board of ten visitors, appointed by the Governor.

[4] Laws, 1891, p. 226; 1899, pp. 162, 462.

[5] Laws, 1905, p. 380; 1907, p. 240; 1909, p. 379; Rev. Code, 1908, §§ 800–804.

[6] Laws, 1849, p. 39; 1851, p. 100; 1853, p. 90; 1855, pp. 35, 42; 1857, p. 84.

[7] Laws, 1869, p. 63; 1875, p. 104; 1887, p. 100; 1905, p. 87; 1909, p. 102; 1912, p. 66; 1917, p. 734; Ann. Stat., 1913, pp. 172, 177, 804, 823–832. In 1905 the name was changed from the Illinois Institution for the Education of the Blind. In 1909 the school came under its present management, having previously had a special board of trustees. It has also a board of visitors of three members. In 1892 there was a movement to create a second institution in Chicago, an appropriation of $50,000 being made and a lot purchased; but the plan was not carried through.

[8] Laws, 1897, p. 290; 1911, p. 502; Ann. Stat., p. 5965.

pupils were sent to the schools in Kentucky and Ohio.[1] It is directed by a board of four trustees, with supervision by the State departments of education and charities.[2] Provision is made for higher education.[3]

Iowa. A private school was opened at Keokuk in 1852, which the following year was taken over by the State and moved to Iowa City, being removed in 1862 to Vinton.[4] The Iowa College for the Blind is controlled by the State board of education.[5]

Kansas. A private school was started in Kansas City in 1864, which was taken over by the State in 1867.[6] The State School for the Blind is governed by the State board of administration of educational institutions.[7] Provision is made for higher education.[8]

Kentucky. In 1842 a private school was opened in Louisville, which the following year was adopted by the State.[9]

[1] Laws, 1847, p. 41; 1848, ch. 76; Rev. Stat., 1852, p. 161; Laws, 1859, ch. 41; 1865, p. 124; 1869, p. 22; 1879, p. 4.

[2] Laws, 1883, p. 15; 1891, p. 199; 1895, ch. 145; 1897, p. 157; 1899, p. 477; 1907, ch. 98; 1909, ch. 146; 1913, ch. 213; Ann. Stat., 1914, §§ 3423–3492, 3590–3595, 6675, 10203. In 1908 the name was changed from the Institution for the Education of the Blind. From 1895 to 1897 the school was under a board of control. At an early period the president of the board of trustees was also president of the boards of the school for the deaf and of the asylum for the insane.

[3] Laws, 1917, ch. 169; Ann. Stat., Supp., 1918, § 6867a.

[4] Laws, 1849, ch. 121; Code, 1851, p. 186; Laws, 1853, ch. 26; 1855, ch. 56; 1857, ch. 51; 1864, ch. 36; 1870, ch. 31; 1872, ch. 44; 1877, ch. 72.

[5] Laws, 1898, ch. 118; 1909, chs. 88, 175; 1911, ch. 141; Code, 1897, p. 924; Supp., 1913, §§ 1354a, 2682c, 2682w, 2715–2718f, 2739; Supp., 1915, § 254k. The school was called the Iowa Asylum for the Blind until 1855, when it became the Institution for the Education of the Blind, which title it held till 1872. It was under a special board of trustees until 1898, when it came under the State board of control. In 1911 the present arrangement was effected.

[6] Gen. Stat., 1868, p. 102; Laws, 1868, chs. 7, 25; 1873, chs. 135, 137; 1875, chs. 37, 67; 1876, ch. 130; 1877, ch. 130.

[7] Laws, 1901, chs. 228, 353; 1903, ch. 303; 1905, chs. 384, 475; 1913, ch. 287; 1915, ch. 328; Gen. Stat., 1915, §§ 762, 766, 9441, 9520, 9707–9722, 9944–9950, 9960. In 1877 the name of the school was changed from the Kansas Asylum for the Blind to the Institution for the Education of the Blind, and in 1901 to its present title. For most of its career the school has been under a special board of trustees. In 1876, with the school for the deaf and the asylum for the insane, it was placed under a single board. In 1901 it was taken charge of by the State board of trustees of charitable institutions, which in 1905 became the State board of control. The present arrangement came into effect in 1913.

[8] Laws, 1915, ch. 320; Gen. Stat., § 9723–9724.

[9] Laws, 1842, p. 26; 1844, p. 91; 1845, p. 45; 1846, ch. 148; 1850, p. 45; 1852, p. 357.

The Kentucky School for the Blind is in the hands of a board of five visitors, and is related to the State department of education.[1]

Louisiana. The State school for the deaf was established at Baton Rouge in 1852, in which in 1856 a department for the blind was created. In 1871 a separate institution for the blind was set up, to be reunited with that for the deaf in 1888, and finally made a separate school in 1898.[2] The Louisiana State School for the Blind is in the hands of a board of seven trustees, including the Governor and the State superintendent of public instruction, with supervision by the State board of charities and corrections.[3] A day school was opened in New Orleans in 1917, under the direction of the city.

Maine. In 1834 the State began sending its blind children to the school in Massachusetts, a policy pursued to the present. The State board of education is in charge of their instruction, with the approval of the Governor and council.[4]

Maryland. In 1837 the State began sending its blind children to the school in Pennsylvania for education.[5] In 1853 an institution was established in Baltimore under private auspices. In 1912 it was removed to Overlea, a suburb of Baltimore. It is now known as the Maryland School for the Blind, with its government in a board of

[1] Laws, 1873, ch. 16; 1876, p. 89; 1910, p. 277; 1914, p. 108; 1916, p. 622; Stat., 1915, §§ 299–311, 4390. Until 1916 the school was called the Kentucky Institution for the Education of the Blind. The first board consisted of the local board of education. In 1884 a department was created for colored children. Laws, p. 29.

[2] Laws, 1855, p. 356; 1866, p. 124; 1870, p. 53; 1871, ch 92; 1878, p. 251; 1888, ch. 49; 1898, p 257.

[3] Laws, 1902, p 382; 1908, pp. 48, 356; 1916, p. 506; Ann. Rev., 1915, pp. 193–195, 1088 The school was first called the Louisiana Institution for the Education of the Deaf, Dumb and Blind. In 1871 it became the Institution and Industrial Home for the Blind; in 1874, the Institution for the Education of the Blind; and in 1880, the Institution for the Blind. In 1898 the last named title was again given. The present one was bestowed in 1908. No provision is made for the colored blind, but in 1916 a commission of five members was created to consider the advisability of a school. Laws, 1916, p. 191.

[4] Laws, 1834, ch. 70; 1885, ch. 268; 1893, ch. 203; 1899, ch. 2; 1907, ch. 10; 1913, ch. 46; Rev. Stat., 1916 p. 390. In 1913 it was provided that blind children might be sent to other institutions as well.

[5] Laws, 1837, ch. 173; 1839, ch. 28; 1840, ch. 24; 1849, ch. 209.

eighteen directors, and is practically a State institution.[1] In 1872 the Maryland School for the Colored Blind and Deaf was created, now also located at Overlea, which is controlled by representatives of the State school for the deaf and of that for the blind.[2] Both of these institutions are visited by the board of State aid and charities.

Massachusetts. A school under private auspices was opened in Boston in 1832. In the same year the State began to make appropriations for its pupils, which policy was continued till 1918. In 1913 the school was removed to Watertown, a suburb of Boston. It is now known as the Perkins Institution and Massachusetts School for the Blind. It is directed by a board of twelve managers, and is visited by the State departments of education and charities.[3]

Michigan. A joint school for the deaf and the blind was opened at Flint in 1854, though the blind did not enter till 1865.[4] In 1880 the Michigan School for the Blind was established at Lansing. It is governed by a board of control of three members, with supervision by the State departments of education and charities.[5] There is a

[1] Laws, 1853, ch. 203; 1854, chs. 67, 224; 1865, ch. 75; 1867, ch. 247; 1868, chs. 205, 409; 1870, ch. 322; 1874, ch. 42; 1886, chs. 278, 481; 1892, ch. 272; 1904, ch. 299; 1906, ch. 236; 1912, p. 395; 1918, ch. 441; Ann. Code, 1911, pp. 814–817, 1761; Supp., 1914, p. 522. In 1886 the name of the school was changed from the Maryland Institution for the Blind.

[2] Laws, 1874, p. 483. The school was formed under a board composed of three visitors each from the school for the blind and that for the deaf.

[3] Laws, 1829, ch. 113; 1830, ch. 81; 1833, chs. 28, 36; 1847, ch. 49; 1864, chs. 56, 96; 1865, ch. 17; 1869, ch. 71; 1885, ch. 118; 1886, ch. 241; 1887, chs. 75, 179; 1888, ch. 239; 1906, ch. 383; 1918, p. 220; Rev. Laws, 1902, p. 462. The school was called the New England Asylum for the Blind till 1833, and the New England Institution for the Education of the Blind till 1839, when it became the Perkins Institution and Massachusetts Asylum for the Blind, being so named for an early benefactor. It received its present title in 1876. There is also an advisory committee of visitors for the school. The Governor of the State has appointed pupils to the school, on the request of the parent, and with the approval of the department of education. In 1918 appropriations of the State ceased, by reason of the adoption of an amendment to the Constitution forbidding State aid to private institutions. Up to this time four of the trustees were appointed by the Governor.

[4] Laws, 1848, pp. 246, 463; 1849, pp. 137, 327; 1850, pp. 30, 334; 1853, p. 119; 1855, p. 239; 1857, pp. 185, 216; 1865, p. 318; 1867, p. 128; 1873, p. 145; 1875, p. 109; 1877, p. 211; 1879, p. 257; 1881, pp. 5, 69, 226, 274.

[5] Laws, 1887, no. 286; 1891, no. 169; 1893, no. 123; 1897, nos. 233, 258; 1907, nos. 116, 202; Ann. Stat., 1913, §§ 1552, 1553, 3629–3640, 9860, 15512. The school was called the Michigan Asylum for the Deaf and Dumb and the Blind until 1870,

day school in Detroit, opened in 1912, and conducted by the city.

Minnesota. A joint school for the deaf and the blind was opened at Faribault in 1863. In 1866 a separate institution, the Minnesota School for the Blind, was created.[1] It is directed by the State board of control.[2] Day schools are authorized.[3] Provision is made for higher education.[4]

Mississippi. The Mississippi Institute for the Blind was established at Jackson in 1848.[5] It is governed by a board of five trustees.[6]

Missouri. The Missouri School for the Blind was established in St. Louis in 1851, a private school having been begun the year before.[7] It is under a board of five managers, and is visited by the State board of charities and corrections.[8] Provision is made for higher education.[9]

Montana. Before the establishment of a school, blind

when it became the Institution for the Education of the Deaf and Dumb and the Blind. It received its present name in 1880. Until 1857 the institution for the deaf and the blind and the asylum for the insane were under a single board of directors. In 1891 a joint board was created for the schools for the deaf and for the blind, which continued for a time.

[1] Laws, 1858, p. 175; 1863, ch. 9; 1864, ch. 71; 1865, ch. 5; 1866, p. 30; 1867, ch. 12; 1868, ch. 17; 1874, ch. 18; 1875, ch. 95; 1879, ch. 31; 1881, ch. 145.

[2] Laws, 1887, ch. 207; 1888, ch. 205; 1901, chs. 122, 170; 1902, ch. 83; 1907, ch., 385; 1909, ch. 396; 1913, chs. 343, 346; 1917, ch. 346; Gen. Stat., 1913, §§ 4004–4040, 4143–4150, 5248–5250; Supp., 1917, §§ 4146–4151. Until 1880 the school was called the Minnesota Asylum for the Deaf and Dumb and Blind; until 1887, the Institution for the Deaf, Dumb and Blind; and until 1902, the Institute for Defectives. In 1879 feeble-minded children were admitted into the school, and in 1881 a department for them was created, which continued till 1902. Up to 1917 the school for the blind, with the school for the deaf, was under a board of trustees, including the Governor and the State superintendent of public instruction. It is also visited by a board of visitors of public institutions.

[3] Laws, 1915, ch. 194; Gen. Stat., Supp., §§ 2228–18 to 2228–22.

[4] Laws, 1915, ch. 307; Gen. Stat., Supp., § 4153–2.

[5] Code, 1848, p. 237; 1857, p. 167; 1871, p. 459; Laws, 1848, p. 153; 1854, p. 95; 1857, pp. 42, 116. For several years after the Civil War blind children were sent to the school in Louisiana.

[6] Ann. Code, 1917, §§ 4993–5002. Until 1870 the school was called the Mississippi Asylum for the Blind. No provision is made for the education of colored children.

[7] Rev. Stat., 1856, p. 210; Laws, 1851, p. 59; 1870, p. 21; 1874, p. 176.

[8] Laws, 1907, p. 305; 1909, pp. 574, 770; 1915, p. 207; 1917, p. 102; Rev. Stat., 1909, §§ 1366, 1470–1483, 10790. In 1876 the name was changed from the Missouri Asylum for the Blind to the Missouri Institution for the Blind. The present name was given in 1881.

[9] Laws, 1913, pp. 8, 17, 138.

children were sent to other States for education.[1] In 1893 the Montana School for the Deaf and the Blind was opened at Boulder. It is under the State board of education, with a local executive board of three members, and is visited by the State board of charities and reform.[2]

Nebraska. Before the founding of a school, pupils were sent to schools in other States.[3] The Nebraska School for the Blind was established at Nebraska City in 1875.[4] It is governed by the board of commissioners of State institutions, with visitation by the board of charities and correction.[5]

Nevada. Since 1869 blind children have been sent to the schools in adjoining States, the State department of education contracting for them.[6]

New Hampshire. In 1832 the State commenced to send its blind children to the school in Massachusetts, which policy is still continued. The Governor and council have control of their education, with supervision by the State board of charities and correction.[7]

New Jersey. In 1836 the State commenced to send its blind children to the schools in New York and Pennsylvania, which policy is still pursued. Their education is in charge of the State department of charities and corrections, under

[1] Rev. Stat., 1879, p. 512; Comp. Stat., 1887, p. 917; Laws, 1885, p. 49. The Governor and the State superintendent of public instruction were authorized to contract for the education of the blind and the deaf.

[2] Code, 1895, §§ 2330–2371; Laws, 1893, p. 181; 1897, p. 94; 1903, chs. 9, 10, 25; 1909, p. 207; 1913, ch. 76; Pol. Code, 1907, §§ 1148–1206; Supp., 1915, §§ 648, 1171. The name of the school was changed in 1901 from the Montana Deaf, Dumb and Blind Asylum. Since 1909 there has been a department for the feeble-minded in connection with the school. The Governor, Secretary of State, and Attorney-General formerly constituted the commissioners for the school.

[3] Rev. Stat., 1866, p. 374. Pupils were sent mainly to Iowa, the Governor contracting out for them.

[4] Laws, 1875, p. 146; 1877, pp. 177, 188; 1881, ch. 78.

[5] Laws, 1897, p. 202; 1901, p. 454; 1903, p. 549; 1905, p. 575; 1907, p. 430; 1909, p. 475; 1913, p. 537; 1915, p. 293; Rev. Stat., 1913, § 6897, 6924–6926, 7187, 7189, 7210–7217. In 1913 the name was changed from the Nebraska Institute for the Blind. Until 1913 the school for the blind and that for the deaf were under a joint board, with inspection by the State board of public lands and buildings.

[6] Laws, 1869, ch. 103; 1905, p. 253; 1907, p. 371; Rev. Laws, 1912, §§ 1702–1714.

[7] Laws, 1836, ch. 256; 1879, ch. 58; 1899, ch. 99; 1905, ch. 106; Pub. Stat., 1901, p. 279.

the immediate direction of a special board for the blind.[1] Day schools are in operation, under a State law, in Newark and Jersey City, the former opened in 1910, and the latter in 1911.[2] Provision is made for higher education.[3]

New Mexico. The New Mexico Institute for the Blind was opened at Santa Fé in 1903, and in 1909 removed to Alamogordo. It is directed by a board of six trustees, including the Governor.[4]

New York. The New York Institute for the Education of the Blind was opened in New York City in 1832 as a private corporation. In 1834 the State began to make *per capita* appropriations to it, which policy is continued to the present. It is governed by a board of twenty managers.[5] A second school, the New York State School for the Blind, was opened at Batavia in 1868. It is strictly a State institution, and is controlled by a board of seven managers.[6] Both schools are visited by the State departments of education and charities.[7] Day school centers are in operation in New York City, opened in 1909, there

[1] Laws, 1819, p. 245; 1836, p. 305; 1837, p. 79; 1843, p. 59; Rev. Stat., 1846, p. 406; Laws, 1873, p. 45; 1875, p. 11; 1893, p. 327; 1904, p. 268; 1910, pp. 211, 330, 537; 1915, ch. 297; 1918, p. 59; Comp. Stat., 1910, pp. 457, 1896–1902. In 1875 the establishment of a State school was proposed. Report of Commissioners on Proposals for Sites and Plans for Buildings for the Deaf and Dumb, the Blind, and the Feebleminded in the State of New Jersey, 1875.

[2] Laws, 1911, p. 513; 1918, p. 109.

[3] Laws, 1912, ch. 336; Comp. Stat., Supp., 1915, p. 1455.

[4] Laws, 1903, ch. 2; 1907, ch. 4; 1915, ch. 33; 1917, ch. 115; Stat. Ann., 1915, §§ 5101–5110. An effort was made to establish a school in 1892. Report of Commissioners in Charge of the Deaf, Dumb and Blind Asylum, 1894.

[5] Laws, 1831, ch. 214; 1834, chs. 40, 316; 1835, ch. 42; 1836, chs. 226, 399; 1839, ch. 200; 1841, ch. 175; 1845, chs. 43, 140; 1848, ch. 193; 1852, ch. 333; 1855, ch. 539; 1859, ch. 278; 1862, ch. 351; 1864, chs. 386, 555. In 1912 the name was changed from the New York Institution for the Blind.

[6] Laws, 1865, ch. 587; 1867, ch. 744; 1872, chs. 104, 616; 1873, ch. 463; 1886, ch. 663; 1895, ch. 563; 1908, ch. 433; Cons. Laws, Supp., 1913, pp. 730–735. In 1895 the name of the school was changed from the New York State Institution for the Blind. It was proposed to start the school at Binghamton.

[7] Laws, 1870, ch. 166; 1871, ch. 166; 1874, ch. 226; 1875, chs. 213, 567; 1877, ch. 413; 1882, ch. 410; 1886, ch. 615; 1894, chs. 229, 556; 1895, ch. 771; 1896, ch. 546; 1903, chs. 62, 223; 1911, ch. 710; 1912, chs. 60, 223; 1917, ch. 170; Cons. Laws, 1909, pp. 1278–1283, 5385; Supp., 1913, pp. 684, 721–729. The New York Institute receives pupils living in near-by counties; the New York State School, from the remainder of the State. Both are members of the University of the State of New York.

being a State law for them.[1] Provision is made for higher education.[2]

North Carolina. A joint school for the blind and the deaf was established at Raleigh in 1845, though the blind did not enter till 1851.[3] In 1893 the white deaf were removed, leaving the blind, with a department for the colored blind and deaf. The institution is now known as the State School for the Blind and the Deaf, and is directed by a board of eleven directors, with supervision by the State departments of education and charities.[4]

North Dakota. The North Dakota School for the Blind was opened at Bathgate in 1908, before which time blind children were sent to the schools in South Dakota and Minnesota. It is directed by the State board of control.[5]

Ohio. The Ohio State School for the Blind was established at Columbus in 1837.[6] It is governed by the State board of administration, with inspection by the board of charities.[7] Day schools are in operation, under a State law,

[1] Laws, 1917, ch. 559; 1918, ch. 378.

[2] Laws, 1907, ch. 608; 1913, ch. 175; Cons. Laws, p. 1282.

[3] Laws, 1844–1845, ch. 37; 1846–1847, ch. 48; 1848–1849, chs. 4, 5; 1850, chs. 4, 5; 1852, ch. 48; Rev. Code, 1854, ch. 6; Laws, 1869, ch. 154; 1870–1871, ch. 35; 1876–1877, ch. 156.

[4] Laws, 1879, ch. 332; 1881, ch. 211; 1889, ch. 539; 1893, chs. 69, 137; 1895, ch. 461; 1899, chs. 1, 311, 540; 1901, chs. 4, 210, 627, 707; 1903, ch. 69; 1905, ch. 67; 1908, chs. 69, 141; 1911, ch. 212; 1915, ch. 14; 1917, chs. 20, 35, 150, 254; Rev., 1908, §§ 3836d, 3921, 4144, 4148, 4187–4201, 3695, 5373; 1913, § 4199; 1917, § 4189a. In 1905 the name of the school was changed from the North Carolina Institution for the Education of the Deaf, Dumb and Blind. In 1869 colored deaf and blind children were admitted, and in 1872 a department was created for them. Laws, 1872–1873, ch. 134.

[5] Laws, 1890, ch. 182; 1895, ch. 24; 1899, ch. 86; 1911, chs. 62, 97; 1913, chs. 65, 95; Comp. Laws, 1913, §§ 243, 1195, 1342, 1699–1708, 10174. A school was planned in 1895. In 1911 the name of the school was changed from the North Dakota Asylum for the Blind. Until 1911 the school was under a special board of trustees. When pupils were sent to schools in other States, the Governor had charge of them.

[6] Laws, 1837, p. 116; 1838, p. 49; 1843, pp. 57, 416; 1851, p. 110; 1852, p. 194; 1856, p. 96; 1861, p. 40; 1866, pp. 64, 170.

[7] Laws, 1874, p. 87; 1876, pp. 111, 246; 1878, p. 150; 1880, p. 75; 1885, p. 227; 1888, p. 192; 1889, p. 337; 1890, p. 80; 1891, p. 356; 1892, p. 381; 1893, p. 289; 1894, p. 97; 1898, pp. 151, 212; 1902, pp. 273, 620; 1904, p. 549; 1908, p. 80; 1910, p. 156; 1911, p. 211; 1913, p. 175; Ann. Gen. Code, 1912, §§ 1835, 1875, 1884–1889, 2846, 3360, 4441, 7778, 7795. In 1902 the name of the school was changed from the Ohio Institution for the Education of the Blind. Until 1911 the school was in the hands of a special board of trustees. From 1852 to 1856 a single board directed the schools for the deaf and for the blind and the asylum for the insane.

in Cincinnati, opened in 1905; in Cleveland, opened in 1909; and in Toledo, opened in 1915.[1] Provision is made for higher education.[2]

Oklahoma. A private school was opened at Fort Gibson in 1897, to which public aid was granted. In 1907 it was taken over by the State, being removed to Wagoner, in 1908 back to Fort Gibson, and in 1913 established at Muskogee. The Oklahoma School for the Blind is governed by the State board of education.[3] In 1909 the Industrial Institute for the Deaf, the Blind, and Orphans of the Colored Race was created at Taft. It is directed by a board of five trustees, including the State superintendent of public instruction and the Auditor.[4] Both schools are visited by the State departments of charities and education.

Oregon. The Oregon State School for the Blind was established at Salem in 1873.[5] It is directed by the State board of control.[6]

Pennsylvania. The Pennsylvania Institution for the Instruction of the Blind was established in Philadelphia in 1833. It is a private corporation under a board of twenty-four managers, including the Governor as patron. It has received *per capita* appropriations from the beginning.[7] The Western Pennsylvania Institution was opened in Pittsburgh in 1890. It is also a private corporation, with a board of nine directors. It is similarly aided by the State.

[1] Laws, 1913, p. 270; 1914, p. 232; 1917, p. 153; Ann. Gen. Code, Supp., 1916, §§ 7755–7761.

[2] Laws, 1913, p. 474; Ann. Gen. Code, § 1885–1.

[3] Laws, 1897, ch. 16; 1899, p. 220; 1908, p. 632; 1911, p. 120; 1913, p. 72; Rev. Laws, 1910, §§ 6986–6996; Supp., 1918, §§ 7013a–7013f. The first school was known as the Lura A. Lowrey School, and later as the International School for the Blind. At the beginning the Governor was authorized to contract for the education of the blind, this after a time being placed with the regents of the State university.

[4] Laws, 1909, p. 546; Rev. Laws, §§ 7014–7018.

[5] Laws, 1874, p. 90; 1876, p. 63. The school was privately conducted for a short time.

[6] Laws, 1891, p. 138; 1907, chs. 79, 116; 1913, pp. 119, 130, 683; Oregon Laws, 1910, §§ 4006, 4072, 4130, 4336, 4337. Until 1907 the school had the name of the Oregon Institute for the Blind. Until 1913 it was in the hands of special trustees, usually consisting of State officers, or of the State board of education.

[7] Laws, 1821, p. 393; 1833–1834, p. 16; 1835–1836, p. 328; 1836–1837, p. 43; 1837–1838, p. 395; 1876, p. 138.

Both these schools are visited by the State departments of charities and education.[1] Day schools are authorized.[2]

Rhode Island. Since 1845 blind children have been sent to the school in Massachusetts. The Governor of the State now makes the appointments, in coöperation with the State board of education.[3]

South Carolina. In 1834 provision was made for the education of some blind children at the school in Massachusetts.[4] In 1849 a private school for the deaf was started at Cedar Springs, in which in 1855 the blind were allowed to enter, and which in 1857 was taken over by the State. It is now known as the South Carolina Institution for the Education of the Deaf and the Blind, and is under a board of five commissioners, including the State superintendent of education.[5] Provision is made for higher education.[6]

South Dakota. Before the opening of a State institution, blind children were sent to other States for education.[7] The South Dakota School for the Blind was established at Gary in 1899. It is under the direction of the State board of control.[8]

Tennessee. A private school was opened at Nashville in 1843, which was taken over by the State two years later.[9]

[1] Laws, 1887, p. 271; 1909, ch. 356; 1911, p. 383; Purdon's Digest, 1903, pp. 586, 1281, 1282, 5421; Supp., 1912, p. 113.

[2] Laws, 1911, p. 329; Purdon's Digest, Supp., 1912, p. 82.

[3] Laws, 1845, p. 92; Rev. Stat., 1857, p. 158; Gen. Stat., 1872, p. 167; Pub. Stat., 1882, p. 207; Laws, 1892, p. 345; 1893, ch. 1175; 1896, ch. 322; Gen. Stat., 1909, pp. 373, 374.

[4] Laws, 1834, ch. 6; 1847, p. 436; 1848, p. 524; 1852, ch. 12.

[5] Laws, 1871, p. 609, 1878, p. 706; 1894, p. 748; 1902, p. 1026; 1914, p. 947; 1915, p. 64; Civil Code, 1912, §§ 1918–1927. In 1894 the name of the school was changed from the South Carolina Institution for the Education of the Deaf, Dumb, and Blind. A department for colored children was created in 1883.

[6] Laws, 1910, p. 917; Civil Code, § 1927.

[7] Laws, 1879, ch. 13; 1881, ch. 56; 1885, ch. 21; 1890, ch. 5; 1891, ch. 131. Pupils were sent to Iowa, Minnesota, and Nebraska.

[8] Laws, 1895, chs. 30, 31; 1899, ch. 5; 1901, ch. 63; 1907, chs. 137, 140; 1909, chs. 29, 177; 1911, ch. 140; 1913, ch. 187; Pol. Code, 1913, pp. 45, 151a–152, 515. In 1903 the name of the school was changed from the South Dakota Blind Asylum. There is also a visiting committee for the school, appointed by the Governor.

[9] Laws, 1843–1844, ch. 195; 1845–1846, ch. 157; 1857–1858, ch. 68; Code, 1858, p. 336; Laws, 1859–1860, chs. 19, 69, 123; 1867, p. 301; 1870, ch. 54; 1871, chs. 67, 121.

The Tennessee School for the Blind is in the hands of the State board of control.[1]

Texas. The Texas School for the Blind was founded in 1856 at Austin.[2] The Deaf, Dumb and Blind Institution for Colored Youths was established in 1887 in the same city.[3] These schools are each under a board of six trustees. A day school was opened in Houston in 1917, conducted by the city.

Utah. A school for the deaf was opened at Salt Lake City in 1884, in which in 1896, on its removal to Ogden, a department was created for the blind. The school is now a joint one, known as the Utah School for the Deaf and the Blind, and is controlled by a board of six trustees, including the Attorney-General.[4]

Vermont. In 1833 the State began sending its blind children to the school in Massachusetts, which policy was continued till 1912.[5] In this year a joint school, the Austine Institution for the Deaf and Blind, under private auspices, but with State assistance, was established at Brattleboro.[6] In 1917 the department for the blind was discontinued,

[1] Laws, 1877, ch. 49; 1881, ch. 109; 1883, ch. 145; 1915, ch. 20; Ann. Code, 1917, §§ 2577a–8, 2643–2659. Until 1871 the school was called the Tennessee Institution for the Blind. A department was created for colored children in 1881. Until 1915 the school was under a special board of trustees.

[2] Laws, 1856, p. 66; 1866, p. 66; 1875, pp. 66, 91; 1876, p. 35; 1883, pp. 103, 109; 1895, p. 63; 1899, p. 318; 1001, p. 20; 1905, p. 47; 1913, p. 191; 1915, p. 36; Ann. Civ. Stat., 1914, §§ 171–189, 209, 210, 4042a–4042c, 5387, 5405, 7337; Supp., 1918, § 187½. The school was called the Texas Asylum for the Blind till 1905, when it became the Institution for the Blind. It received its present title in 1915. The school was for a time affiliated with the State university. In 1915 a special board of trustees was created, consisting of the Governor, Lieutenant-Governor, and Attorney-General.

[3] Laws, 1887, p. 150.

[4] Laws, 1894, p. 19; 1896, pp. 100, 135, 475; 1897, pp. 36, 116; 1903, p. 51; 1907, pp. 59, 84, 119; 1911, p. 138; Comp. Laws, 1907, §§ 1791, 2099–2103, 2117. Until 1907 the name was the Utah State School for the Deaf, Dumb, and Blind.

[5] Laws, 1825, no. 21, 1833, no. 21; 1841, no. 22; 1842, no. 16; 1845, no. 15; 1858, no. 3; 1861, no. 34; 1872, no. 19; 1880, no. 124; 1884, no. 39; 1892, no. 27; 1898, no. 29; 1906, nos. 55, 56, 57; 1908, p. 48; 1910, p. 84; 1915, p. 166; 1917, no. 32; Gen. Stat., 1917, §§ 1409–1423.

[6] The sum of $50,000 was bequeathed for the "Austine Sanitarium," which was incorporated in 1904 as a "hospital for the temporary treatment of strangers and local invalids peculiarly situated." In 1908 the legislature allowed the name to be changed, and the money to be applied to the establishment of the school. Laws, 1904, no. 276; 1908, no. 319; 1910, no. 74.

and the first arrangement renewed, with the Governor acting as commissioner.

Virginia. The Virginia School for the Deaf and the Blind was established at Staunton in 1839.[1] It is governed by a board of six trustees, including the State superintendent of public instruction.[2] The Virginia State School for Colored Deaf and Blind Children was created at Newport News in 1910, and is controlled by a board of five visitors.[3] Both these schools are visited by the State board of charities and corrections.

Washington. Prior to the opening of a school in the State, blind children were sent to Oregon for education. In 1886 a joint institution for the deaf and the blind was established at Vancouver.[4] In 1913 a separate school, the Washington State School for the Blind, was created. It is directed by the State board of control.[5] Day schools are authorized.[6]

West Virginia. Before the creation of a school in the State, blind children were sent to Virginia and Ohio for education.[7] In 1870 the West Virginia School for the Deaf and the Blind was established at Romney.[8] It is under the State board of regents, which has charge of educational institutions.[9]

[1] Laws, 1838, ch. 19; 1839, p. 205; 1849, p. 385; 1855–1856, p. 81.

[2] Laws, 1874–1875, p. 175; 1879, p. 203; 1895–1896, p. 770; 1897–1898, p. 276; 1900, p. 208; 1902–1904, pp. 75, 408, 808; 1918, ch. 310; Code, 1904, §§ 1463, 1652–1659; Supp., 1910, p. 656. In 1898 the name of the school was changed from the Virginia Institution for the Deaf and Dumb and the Blind.

[3] Laws, 1906, ch. 164.

[4] Laws, 1886, p. 136; 1888, p. 87; 1890, p. 497.

[5] Laws, 1807, p. 443; 1899, pp. 130, 326; 1901, p. 250; 1903, pp. 151, 266; 1905, p. 254; 1907, p. 378; 1909, p. 258; 1913, p. 6; Code and Stat., 1915, §§ 4302, 4387–4395½, 4744, 4745, 8933. Until 1905 the school had a department for the feeble-minded, and was called the School for Defective Youth. Until 1901 the school was under a special board of trustees.

[6] Laws, 1909, p. 293; Code and Stat., § 4509.

[7] Laws, 1868, ch. 71.

[8] Laws, 1870, ch. 116; 1871, ch. 71.

[9] Laws, 1887, ch. 52; 1895, ch. 39; 1897, ch. 25; 1901, ch. 60; 1908, ch. 27; 1909, ch. 58; Code, 1913, §§ 587, 594, 2304–2320. In 1887 the name of the school was changed from the West Virginia Institution for the Deaf, Dumb and Blind. Until 1909 control was vested in a special board. Colored children are sent to Maryland for education.

Wisconsin. The Wisconsin School for the Blind was established at Janesville in 1849.[1] It is directed by the State board of control.[2] Day schools are in operation, under a State law, in Milwaukee, begun in 1907, and in Racine, begun in 1909.[3] Provision is made for higher education.[4]

Wyoming. Since 1886 blind children have been sent to the schools in neighboring States for education, the State board of charities and reform having them in charge.[5]

The American Possessions. Outside of the United States proper only limited provision has been made for the education of the blind. In the Philippine Islands a joint school for the deaf and the blind was opened at Manilla in 1909, which is conducted by the city.[6] In Alaska the blind have been looked after to some extent by missionaries.[7] In Porto Rico, the Hawaiian Islands, and the Panama Canal Zone the instruction of the blind has not been undertaken.

[1] Laws, 1850, chs. 28, 218; 1852, ch. 296; 1858, ch. 102; Rev. Stat., 1858, p. 1004; Laws, 1859, ch. 39; 1862, ch. 207; 1865, ch. 538; 1866, ch. 105; 1867, ch. 1; 1871, ch. 136.

[2] Laws, 1880, ch. 229; 1881, ch. 298; 1882, ch. 15; 1883, ch. 268; 1891, ch. 331, 1895; ch. 39; 1897, ch. 25; 1917, ch. 418; Stat., 1917, §§ 41.02, 561i, 564, 568–571, 1014. The name of the school was changed in 1885 from the Institute for the Education of the Blind. Until 1881 it was under a special board of trustees, when it came under the board of supervisors of charitable, reformatory, and penal institutions, the predecessor of the present board of control.

[3] Laws, 1907, ch. 551; 1909, ch. 199; 1913, ch. 772; 1917, chs. 280, 343; Stat., § 41.01. Day schools were in operation in Antigo from 1910 to 1912, and in Bloomington from 1911 to 1913.

[4] Laws, 1917, ch. 581; Stat. 572x.

[5] Laws, 1886, ch. 77; 1890, ch. 15; 1893, ch. 32; 1895, ch. 25; 1907, ch. 10; Comp. Stat., 1910, §§ 437, 564–578. When there are as many as twelve applicants, a State school for the deaf and the blind is to be established at Cheyenne under a board of three trustees, such having been provided for in 1897. A building was erected for the purposes of a school, but was set aside for other uses.

[6] See Report of United States Commissioner of Education, 1909, p. 301; 1913, p. 657.

[7] See Proceedings of National Conference of Charities and Correction, 1895, p. 322; Report of Department of the Interior, 1908, pp. 274, 278.

CHAPTER XVIII

CONSTITUTIONAL PROVISIONS FOR SCHOOLS FOR THE BLIND

Extent of Provisions

In all the States of the Union the education of the blind has been effectually accomplished by statutory action on the part of the legislatures. But in certain ones, to render this a formal and permanent duty, there have been incorporated in the organic law provisions requiring such bodies to give due heed to the matter. Attention of this kind has been demonstrated not to be necessary in actual practice for the support and continuance of the schools for the instruction of the blind; while by some students of constitutional law the view is held that the organic law should confine itself only to fundamental principles of government, leaving the working out of details, as they arise, to the chosen representatives of the people. Yet, however it be considered, the inclusion in express terms of the regard by the state for the education of the blind is quite commendable, and bespeaks a praiseworthy solicitude for their welfare.

These constitutional provisions relating to the blind are found in twenty-eight States: Alabama, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, and West Virginia. The provisions are more direct in some States than in others, and vary from a specific command to a mere incidental reference. In most instances they refer

both to the care and to the education of the blind, though they are evidently intended to mean mainly the latter.[1]

The first State to make reference in its Constitution to the education of the blind was New York in 1846. Michigan, however, in 1850 was the first State to provide directly for their education as a requirement on the part of the legislature. It was followed in 1851 by Indiana and Ohio. Of the forty-two States adopting Constitutions, new or revised, since 1846, twenty-eight have made reference of some kind to the blind, while fourteen have failed to do so. Of the twenty-two States adopting Constitutions since 1889, eighteen have made such provision.[2] It thus appears that the more recent a Constitution, the more likely it is to have a provision respecting the blind. For a number of the States without such a reference, it is to be observed that their Constitutions date far back in our National history, and were adopted before attention was called to the needs of this class. Hence in general it is not to be concluded from the mere presence of constitutional mention that certain States are more regardful of the educational welfare of the blind than are others.

Language and Forms of Provisions

The language of the provisions of the Constitutions in respect to schools for the blind varies considerably, as we have stated.[3] In practically every case the blind are coupled with the deaf; and unless the reference is included in an

[1] The Constitutions of most of the States of the United States provide for the education of all their children—a provision which could well embrace the blind. In some of the States, furthermore, there are requirements for the establishment of charitable, reformatory, and similar institutions, among which schools for the blind might perhaps also be included.

[2] In the Constitutions of some of the States, as Florida, Kansas, Louisiana Michigan, Mississippi, New York, and South Carolina, there were provisions in the preceding as well as in the present drafts.

[3] In the Constitutions no reference is made to the blind other than in relation to schools, except in that of Mississippi, where they are exempted from a certain tax, in that of Missouri, where a pension system is authorized for them, and in that of Georgia, where a pension for blind war veterans is permitted.

article concerned with educational matters, the insane, and perhaps other classes, are likely to be provided for in the same clause. In several instances there is more than one reference to schools for the blind.[1]

The most common statement is that institutions for the blind, the deaf, and the insane shall be fostered and supported, or shall be established and maintained, by the State. Such is the case in the Constitutions of Arizona,[2] Colorado,[3] Florida,[4] Idaho,[5] Kansas,[6] Michigan,[7] Montana,[8] Nevada,[9] Ohio,[10] South Carolina,[11] Utah,[12] and Washington.[13] In the Constitution of South Carolina the school is also declared to be exempt from taxation, and to be included among the educational institutions of the State, the latter provision entitling it to the scholarships which are created from the lands granted by the National Government. In the Constitution of Utah a further provision establishes the location of the school, with the transfer of its property from the State university, and guarantees against diversion the lands bestowed by the United States Government.[14] In the Constitution of Colorado the school is listed among the institutions declared to be the property of the State, and is acknowledged to be an educational institution.

In the Constitutions of a smaller number of States it is

[1] In these constitutional provisions the reference is as a rule found under some general head, as "public institutions," "state institutions," "miscellaneous," or the like. Under the heading of "education" are the provisions in the Constitutions of Arizona (one clause), Colorado (as an amendment), Michigan, Mississippi, New Mexico, Oklahoma (one clause), South Carolina (as an amendment), Texas (though under sub-title "charitable"), Utah, Virginia, and West Virginia.

[2] Art. XI, sec. 1; Art. XXIII, sec. 15.

[3] Art. VIII, secs. 1, 5 (as amended).

[4] Art. XIII, sec. 1.

[5] Art. X, sec. 1.

[6] Art. VII, sec. 1.

[7] Art. XI, sec. 15.

[8] Art. X, sec. 1; Art. XII, sec. 12.

[9] Art. XIII, sec. 1.

[10] Art. VII, sec. 1.

[11] Art. II, sec. 8 (as amended); Art. X, sec. 4; Art. XII, sec. 1.

[12] Art. X, sec. 10; Art. XIX, secs. 2, 3.

[13] Art. XIII, sec. 1.

[14] It is to be noted that in nearly all the States having Government donations of land, reference is made to its inviolability.

declared in effect to be the duty of the legislature to provide by law for the support of institutions for the education of the deaf and the blind, and for the insane. These States are Arkansas,[1] Indiana,[2] Mississippi,[3] and Oklahoma.[4]

The Constitutions of the remaining States have less direct or authoritative references to the blind. In that of West Virginia the legislature "may make suitable provision for the blind, mute, and insane whenever it may be practicable." [5] In the Constitution of North Carolina the matter seems similarly to be left to the discretion of this body.[6] In the Constitution of Minnesota mention is made of land bestowed upon the school, and the public debt is authorized to be increased for the purpose of establishing certain institutions, including a school for the blind and the deaf.[7] In that of South Dakota the several charitable institutions of the State are enumerated, among which are schools for the deaf and for the blind, while direction is also given for the sale of the land held for the benefit of the school.[8] In that of New Mexico the school for the blind is enumerated among the educational institutions of the State, reference also being made to the public land held by it.[9] In that of Virginia the school is mentioned in connection with the composition of the State board of education.[10] In that of Nebraska it is provided that among the duties of the Governor is the appointment of a board of commissioners for State institutions, in which is listed the school.[11] In that of Texas a permanent fund is provided from the lands which had been given to the school by the State.[12]

[1] Art. XIX, sec. 19.
[2] Art. IX, sec. 1.
[3] Art. VIII, sec. 209.
[4] Art. XIII, sec. 1; Art. XXI, sec. 1.
[5] Art. XII, sec. 12.
[6] Art. XI, sec. 10.
[7] Art. VIII, sec. 2; Art. IX, sec. 14a (as amended).
[8] Art. XIV, sec. 1.
[9] Art. XII, sec. 11.
[10] Art. IX, sec. 130.
[11] Art. V, sec. 19.
[12] Art. VII, sec. 9.

In that of North Dakota the school is permanently located, and it is provided that 30,000 acres of the public land donated be set apart for its benefit.[1] In that of Alabama the legislature is expressly forbidden to change the location of the school unless by a two-thirds vote.[2] In the Constitution of New York the provisions have reference to the subsidies granted to private institutions, it being declared that "nothing in the Constitution shall prevent the legislature from making such provision for the education of the blind, the deaf and dumb, and juvenile delinquents . . . as it may deem proper," and that the legislature is not to be prohibited from action by the provision that the credit or land of the State may not be "given to private associations, corporations, and undertakings." [3] In the Constitution of Louisiana a similar declaration is found to the effect that its provisions forbidding appropriations for religious, charitable, private, or benevolent organizations shall not apply to schools for the blind and the deaf.[4]

[1] Art. XIX, sec. 216; Amendment, Art. X. An amendment to the Constitution authorizing a change in the name of the school was adopted in 1915 by a popular vote of 42,365 to 21,799.

[2] Art. XIV, sec. 267.

[3] Art, VIII, secs. 9, 14.

[4] Sec. 53.

CHAPTER XIX

QUESTION OF THE CHARITY CONNECTION OF THE SCHOOLS

Schools Sometimes Regarded as Educational: Sometimes as Charitable

In considering the relation of the state to its schools for the blind, the question is raised as to the manner in which they are regarded by it. This is to be determined by the form of attention which they have received, or by the classification adopted in respect to them. We find that in a number of States the schools are held to be to a greater or less extent charitable; and the further question is presented as to whether this is the proper and just attitude.

In times past the conception that has largely prevailed has been the charitable one. In later days, however, the view has been more and more widely entertained that the schools should be considered essentially as educational institutions. Although it is not easy to discover with exactness the treatment accorded to the schools in the different States, the lines in some shading off one into the other, it would nevertheless appear, from what has been said in the preceding chapters, and also from certain legislative designations, that in somewhat more than half the States the schools are now regarded largely if not entirely as educational: Alabama, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, Rhode Island, South Carolina, Texas, Utah, Washington, and West Virginia. In the remaining States the institutions seem to be regarded as charitable in greater or less degree, either from

their connection with State boards of charities or from some other classification. In some cases the schools are recognized as educational, but at the same time are not held altogether free from the charitable touch.[1]

To ascertain the true attitude of the state in this respect, we may perhaps best have recourse to the final authority in America for the determination of such matters—namely, the courts of law. The question seems to have been passed upon judicially in four cases. In two of these the institutions for the blind are held to be charitable, and in two educational.

The most important decision of the first kind is that of *People ex rel. New York Institution for the Blind v. Fitch*,[2] which came up in New York in 1897. Here the provision of the statute was attacked which allowed the State board of charities to inspect the school. It was held by the Court that this board had the right to inspect. The ground was adopted that though the institution was partly educational, and was visited by the State department of education, yet the word "charitable" as found in the law was to be taken in its usual signification; and that if the institution as a private body educated, clothed, and maintained indigent pupils, it was in fact charitable. The other case in which the school for the blind is regarded as charitable is that of *State v. Bacon*,[3] which came up in Nebraska in 1877. Here it was decided that the State school was to a greater extent

[1] Thus in addition to the States mentioned above, the institutions are designated as educational in the Constitutions of Michigan, Oklahoma, and Virginia. In certain States also, as we have seen, the State superintendent of public instruction is a member *ex-officio* of the governing board, or report is made to, or inspection is made by, the department of education. In some States the institutions are expressly declared by law to be educational. In a number of cases an educational classification is found now and then in statutory references or captions. On this subject, see *American Annals of the Deaf*, xlviii., 1903, p. 348; lviii., 1913, p. 327.

[2] 154 N. Y., 14, 47 N. E., 983; reversing 16 Misc., 464, 39 N. Y. Supp., 926. On this case, see also Report of New York Institute, 1897, p. 15; Report of New York State Board of Charities, 1897, pp. 101, 359; Correspondence and Statement Relating to the Specific Educational Purposes and Proper Classification of the New York Institution for the Blind, 1896. See, in addition, *American Asylum v. Phœnix Bank*, 4 Conn., 172, 10 Am. Dec., 112 (1822).

[3] 6 Neb., 286. In this case there was a strong dissenting opinion.

charitable than educational, and hence properly came under the direction of the board of public lands and buildings, which had charge of the several State institutions.

Of the two decisions holding the school for the blind to be educational, one is also found in Nebraska. This is the case of *Curtis v. Allen* [1] in 1895, where an action had been brought by certain pupils of the school to compel the board of public lands and buildings to reverse its ruling that they could not remain thereat during the vacation period, this having been denied them on the ground that the school was educational only, and could not receive pupils at such a time. This view the Court adopted, rather distinguishing this case from the preceding one than directly overruling it. The remaining decision is that of *State v. Bryan*,[2] which came up in Florida in 1905, involving jurisdiction as to the State school for the deaf and the blind. The Court held that this institution was educational, and was properly under the board directing the educational institutions of the State. It was moved to its decision largely because it believed that the legislative intent was but being carried out.[3]

Charity in Connection with Schools for the Blind

The idea of charity springs from altruistic conceptions, and represents the source of most that is good in the affairs of men. It includes the treatment by the state of various elements of its population, no less than the general treatment by organized society of such of its members as may in one way or another be incapacitated. It is in fact ex-

[1] 43 Neb., 184, 61 N. W., 568. In commenting upon this case, the Governor of the State takes occasion to declare his strong conviction of the educational character of the institution, despite the opinion of the Attorney-General to the contrary. Message, 1897, p. 30. See also *ibid.*, 1899, p. 42; Report of Attorney-General, 1896, p. 79.

[2] 50 Fla., 293, 39 So., 929.

[3] It may also be noted here that in the majority of opinions rendered by Attorney-Generals of the several States, so far as they have concerned the institutions, these have been held to be educational. See Opinions of Attorney-General of United States, 1897, p. 1; 1900, p. 287.

pressed to a very wide extent in the system of public education of children, this being nothing less than charity in its best sense, despite its appellation, and despite the fact that education has long ceased to be considered as charity.

Unfortunately, however, the word charity has come to have a popular understanding which is a less favorable and a less desirable one. In this understanding, charity is something doled out and granted by the giver as a matter of grace on his part, there being conveyed to the recipient associations which are felt to be more or less degrading, and which do not comport with full independence of character. Truly as education may be charity, it is no longer thought of in connection with schools in general, they being now entirely without such connotation. Only those schools which are for the education of certain classes, as the blind and the deaf, and which are established no less for educational ends, are left with the invidious signification of the term. To render the situation more unhappy still, it happens that the state maintains institutions for certain other classes, as the insane, the feeble-minded, and the infirm, which are largely custodial in character, together with institutions of a reformatory, corrective, or punitory nature. With them, under the present conceptions, have to be classed the schools for the blind, all being known as the state's "charitable institutions" or "state institutions." Blind children thus, instead of being pupils in a school as are other children with no defect of sense, are "inmates" of a public institution or asylum, and are the wards of the state.

The chief trouble, then, in classifying the schools for the blind as charitable is this connection with the word charity, and the grouping of the blind with certain other parts of the state's population, which other children do not have to share. The latter receive an education merely as an education: the blind receive it as charity. Their schools are misrepresented in being aligned on the one hand with institutions for persons with defective or diseased minds, and on

the other with institutions for the state's delinquent and criminal classes. The fact that blind children are but in the way of gaining an education is in great measure lost sight of: the public rarely discriminates or makes note of the distinctions involved.

Education is now such a fixed principle in American institutions that it should, it seems, be bestowed upon all qualified for it in its true implications. Even in designation the blind should receive their education as a right and as nothing else. They should not be denied in name any more than in deed that which is the paramount privilege of all American children.

Not only on principle, but in actual practice the schools for the blind are conducted as educational establishments. Admission into them has become in nearly all respects like that into schools for children who see. They describe themselves now almost altogether as "schools," practically all of them having abandoned the term "asylum," which was applied to some at the beginning,[1] and many having even discarded the title "institution." The schools are open as a usual thing only to children capable, mentally and physically, of being instructed. Pupils who have finished the prescribed number of years of attendance can in general be provided for no longer; nor in vacation time can they as a rule be in residence. The schools have become free to all, as we have seen, while compulsory laws are having an increasing application to the blind. In short, if schools for the blind are in fact educational, they can be regarded as charitable only to the extent that all schools are so considered: they should not be looked upon in a different light, and should not be denominated otherwise.[2]

[1] The term "asylum" was bestowed upon some of the schools at their founding after the manner of the English schools, which were largely created and maintained by charity.

[2] In a legal sense, nearly all educational institutions can be called charitable, especially if they are privately endowed and supported; and gifts for them are held in the law as for charitable purposes. This doctrine has been affirmed in American courts from the earliest times to the present. The following are the leading cases in point: *Trustees of Dartmouth College v. Woodward*, 4 Wheat. (U. S.), 518 (1819);

Arguments for Connection with Boards of Charities

If such is the theory as to the status of schools for the blind, what are the actual grounds upon which their connection with State boards of charities may be justified? The answer is found simply in the practical workings of the arrangement. Under this, we are told, the schools may be afforded the substance at least in the way of beneficial treatment, no matter by what name it may be called. With capable and sympathetic boards, all the needs of the schools may be attended to with generally satisfactory results. The experience of such boards with similar institutions, especially as regards the housing of a large number of persons, may be utilized to no small advantage. By this plan supplies for all the State's institutions may be procured on the most favorable terms, the appropriations to be asked for from the legislature may be properly apportioned, and there may otherwise be due correlation of all the means of the State for the maintenance of those classes of its population which have to be congregated in special establishments. Such boards may also have peculiar opportunities for coming across poor and neglected children and of getting them into the schools.[1]

The argument most often heard in favor of the connection with the boards of charities is that, though the institutions may in the main be educational, there is much else in their work to be considered. During the school year a home and board are provided for the pupils, entirely without cost to their parents, and usually clothing and transportation as well for those in need of them. The schools are

American Academy of Arts and Sciences v. Harvard College, 12 Gray (Mass.), 582 (1832); *Vidal v. Girard's Executors*, 2 How. (U. S.), 127 (1844); *Board of Trustees for Vincennes University v. State of Indiana*, 14 How. (U. S.), 269 (1852); *Chapin v. School District*, 35 N. H., 445 (1857); *Price v. Maxwell*, 28 Pa., 23 (1857); *Cresson's Appeal*, 30 Pa., 437 (1858); *State v. Pitman*, 44 Mo., 570 (1869); *Gerke v. Purcell*, 25 Ohio, 229 (1874); *Taylor v. Trustees of Bryn Mawr College*, 34 N. J. Eq., 101 (1881); *Russell v. Allen*, 107 U. S., 163 (1882).

[1] See *Charities Review*, vi., 1897, p. 529; A. G. Warner, "American Charities," ed. 1908, p. 357.

looked upon as containing a number of dependent children gathered in one of the public institutions of the State, and hence properly subject to the visitation and supervision of boards of charities.

Yet notwithstanding their powers of inspection, the boards of charities do not themselves necessarily regard the institutions as charitable.[1] Many of them readily view the institutions as educational, despite the charitable connection, and few are unwilling to give full recognition to their educational claims. In none is there a desire to injure or stigmatize the blind. The sole aim is to consider the matter in its practical bearings, and the question is held to be one of administrative efficiency—what is best for the different interests concerned. With all, the fact weighs that board, lodging, and other things are furnished without cost.[2] The clearest and fullest presentation of the point of view of the boards of charities is given in the following excerpt from the letter of one of the boards: [3]

The institutions are doubtless both educational and charitable, or at least ought to be, using these words in their ordinary application. It is not a question of merit or demerit on the part of the unfortunates or their families. It is not a question whether they are entitled to an education as much as normal

[1] In order to discover how the institutions for the blind and the deaf are regarded by the boards of charities of the several States, letters of inquiry were sent to them by the writer. Replies were received in forty-five cases, coming from boards of charities, boards of control, or in their absence, from commissioners of education or other State officials- and in a few instances from individuals or societies to whom the communication was turned over. In the answers the institutions were called charitable by six, educational by thirteen, both educational and charitable by twelve, while in fourteen the question was not specifically answered. In some instances the replies were of course only private opinions, but they represented none the less the views of those most in touch with the charitable activities of the States. It appeared incidentally that boards of control do not necessarily consider the institutions as charitable.

[2] By one board, while such schools are admitted to be partly educational, they are held to be "charitable in that they afford a home for certain defective persons during the time of their dependence." By another board the pupils are called "charity patients." The institution for the blind and the deaf has been called one for the "restoration of lost senses." Report of Michigan Board of Charitable, Penal, and Reform Institutions, 1878, p. 41.

[3] District of Columbia. On the claims of the boards with respect to the schools, see South Carolina Bulletin of State Charities and Corrections, iii., 1917, 4, Dec., p. 65.

children. So far as there is any real issue, it is one of classification for purposes of administration. The question seems to be whether the institutions that care for the above mentioned classes can best be administered under the department of charities that has charge of public institutions, or the department of education that usually has to do with institutions that furnish education only in the limited technical sense, where pupils attend school a few hours a day, but are not boarded at the institutions. Because an institution is an educational institution, I think it may be none the less a charitable institution. For example, it would hardly be denied that an orphan asylum is a charitable institution; yet an orphan asylum that was not an educational institution would be deplorable. In the state institutions for the deaf and the blind, throughout the country, the educational side is very properly emphasized. . . . These inmates would properly be classed as public dependents as they usually have been. . . . The whole trouble seems to arise from the feeling of aversion to the word "charity," and probably the word has been degraded. . . . To refer to the institutions under consideration as "educational institutions," without any qualification, would not be in the interest of clearness of thought, and would either lead to confusion or to some qualifying phrases, because the deaf and the blind are certainly different enough from the normal child to be considered, for many purposes, in a separate class, and the institutions which educate and support them, it would seem to me, need some term by which they can be designated, which would distinguish them from the educational institutions designed for the normal child.

Objections to Connection with Boards of Charities

Of the force of the arguments for the connection with the boards of charities, educators of the blind are fully cognizant. Yet they do not hesitate to affirm the positive benefit, as well as the general desirability, of an arrangement whereby schools for the blind might be completely dissociated with whatever savors of charity. As long as the connection continues, it is averred, the schools and their pupils will have to suffer. The pupils both while in school and in after life are entitled to a recognition of the true character of their education. The public cannot too soon be brought to understand the correct status of the schools.

Nor, it is insisted, is this feeling all to be ascribed to an unreasoning prejudice against a particular word.

In so far as the practical aspects of the matter are concerned, it is declared that the possible advantages from the connection with the boards of charities may be more than offset by connection with the educational agencies of the state, where the school for the blind has its due place in the public educational system. As for the maintenance afforded the pupils during their school period, this is to be regarded as but an incidence when any other plan would be impracticable, and as quite analogous to the providing of text-books or medical attendance in other schools. The dominating purpose in the work of the institutions for the blind is education, and what is supplied beyond is only to render this the more effective.

The one great argument, however, against the connection with the board of charities remains that thereby the schools do not receive from the public the regard which should be theirs, and that their pupils are subjected to a discrimination which children who possess sight do not have to bear. In this way, whether wittingly or not, blind children in their efforts for an education have an injury done to them from which they should be spared—who are entitled and are qualified not one whit less than other children to receive such.[1]

Educators and friends of the blind are at one in their desire for the severance of connection with the departments of charities of the state.[2] The feeling on the subject has been thus expressed by the American Association of Instructors of the Blind in a formal resolution, adopted unanimously:

[1] The theory has been stated by a committee on charitable institutions of the Massachusetts legislature in 1869: "We believe that blind children have the same claim upon the state for education as seeing children, and that their needs are greater." Report of Perkins Institution, 1881, p. 98; M. Anagnos, "Education of the Blind," 1882, p. 51.

[2] Many of the schools take pains to disclaim any but an educational character. In their reports they are often declared not to be "asylums," "homes," "retreats," "almshouses," "infirmaries," "houses of refuge," or "hospitals for the treatment of diseases of the eye."

Whereas, The general tendency among legislators and various bodies of our State governments is to classify schools for the education and training of the blind with charitable and reformatory institutions; and

Whereas, This most unjust and unwise classification seriously impairs the usefulness and efficiency of these schools, and in many cases absolutely nullifies the purposes for which they were founded, inasmuch as many are kept from our doors, over which "charity" seems to be written, when if the superscription were "school," they would be eager applicants for admission; therefore

Resolved, That the American Association of Instructors of the Blind believes it to be both wise and just that all schools established and incorporated by the State for the education and training of the blind should be considered a part of the educational system of the State.[1]

[1] Proceedings, 1896, p. 6. See also *ibid.*, p. 50, 1898, p. 49, 1902, p. 20; Proceedings of National Conference of Charities and Correction, 1882, p. 212; 1890, p. 442; 1902, p. 20; Proceedings of National Education Association, 1903, p. 1007; Report of United States Commissioner of Education, 1899, i., p. 453; Report of New York State Department of Education, 1913, p. 81; Indiana Bulletin of Charities and Correction, June, 1897, p. 31; Ohio Bulletin of Charities and Correction, xv., 1, Feb, 1909, p. 88; Proceedings of Wisconsin Conference of Charities and Correction, 1893, p. 100; Bulletin of Iowa Institutions, vii., 1905, p. 137; xi., 1909, p. 148; Message of Governor of Kansas, 1877, p. 17; *Ohio Harp* (Ohio School), i., 1904, p. 155; ii., 1905, p. 10; W. B. Wait, "Reasons for Passage of Senate Bill no. 861" (New York), 1899; "Business Administration," 1909, xii., p. 93; "The Making of America," 1909, x., p. 93; Report of Indiana School, 1892, p. 28; Kentucky School, 1881, p. 8; 1891, p. 17; Georgia School, 1873, p. 7; 1877, p. 9; 1882, p. 12; Texas School, 1875, p. 14; 1877, p. 5; 1880, p. 10; 1895, p. 9; 1900, p. 14; New York State School, 1896, p. 22; 1899, p. 24; 1901, p. 17; 1917, p. 18; Maryland School, 1883, p. 9; California School, 1896, p. 10; Perkins Institution, 1854, p. 27; Ohio School, 1889, p. 9; Iowa School, 1882, p. 20; 1899, p. 26; Montana School, 1905, p. 9; Kansas School, 1896, p. 7; Louisiana School, 1916, p. 29; North Carolina School, 1900, p. 7; Arkansas School, 1918, p. 12.

CHAPTER XX

PROVISIONS REGARDING ADMISSION OF PUPILS INTO THE SCHOOLS

Rules as to Payment of Fees

Thus far we have considered the several forms of provision made for the education of the blind in the United States in the establishment and conduct of schools. We turn now to the examination of the schools themselves in the relation which they bear to the pupils who enter them. Our first concern is with the provisions relating to the admission of pupils into the schools. We may start with their rules with respect to the payment of fees.

The schools for the blind are for all practical purposes free to every applicant qualified to enter. At their beginning they were without cost to the indigent only, though some, especially in the West, were made so to all blind children from the very first. But even in those schools where a charge might be imposed, there was little attempt at its collection; and all such limitations of a formal character were in time, as we have seen, for the most part given up. At present restrictions of any kind are found in the smaller number of States, and exist in these in form rather than in practice, so that to-day laws or regulations of a restrictive nature with respect to payments for attendance at schools for the blind may be regarded as but nominal.[1]

In virtually every State at present tuition is offered free to all, while board is provided without cost to the indigent at least.[2] In hardly more than a dozen is there any regula-

[1] The statutes of certain States, as of Maine and Massachusetts, expressly declare that no discrimination may be made on account of wealth.

[2] In a few cases payment is made for a small number of pupils, such usually being from outside the State, or being otherwise exceptionally provided for. Receipts of

tion short of universal admittance prescribed. In the following States, according to the wording of the statute, either directly or by implication, it would seem to be indicated that the schools, or, in their absence, the proper public authorities, were still empowered to demand a charge in whole or in part from those able to pay: Arizona, Delaware, Florida, Georgia, Maryland, Massachusetts, Mississippi, Nevada, New Jersey, New York, Pennsylvania, South Carolina, Tennessee, and Virginia—the laws of these States at least making reference in some place to the indigent.[1] But with or without such references there is very rarely an actual charge to any pupils, indigent or not. In some States proof of indigence is still formally necessary before pupils are given the benefit of the schools; [2] and in a few payment may be made if desired.[3]

The collection of fees, then, has little place in American schools for the blind.[4] The circumstances of the blind themselves are such as to demand for them education entirely without cost. The general American feeling, moreover, that instruction should be a free gift of the state to its youth would be sufficient to prevent attempts to secure payment even if such action were otherwise deemed proper.

this character are inconsiderable. In a number of States formal provision is made for the admission of pupils from other States, with specification as to the payment to be made therefor.

[1] In Florida tuition alone seems to be provided free for all by the statute. In Georgia free admission, except apparently for a period of four years, is offered only to the indigent blind, while it is free to all the deaf. In Kentucky, on the other hand, free admission is extended to all the blind, but only to the indigent deaf. In Missouri it seems that certain of the indigent from 9 to 25 years of age may be provided for at the expense of the county. On the subject of legal charges, see *American Journal of Sociology*, iv., 1898, p. 51.

[2] This is especially true of New Jersey and Louisiana. In a few States "certificates of inability" have been demanded. Wherever a formal regulation is prescribed, we are advised that the schools are "free to the indigent," "free if parents are unable to pay," "free under certain circumstances," etc.

[3] Instances are Illinois and Maine.

[4] In the case of the Western Pennsylvania Institution, we are advised: "We have not been able to find any one capable of paying the required amount." Now and then a suggestion is made that charges be exacted of those whose parents are able to pay. See Message of Governor of California, 1897, p. 3; 1899, p. 18.

Provision for Collateral Support of Pupils

The state thus supplies the means for education, and for maintenance during the period of education, to blind children without charge on their part. But to insure the attendance of those who by reason of poverty might be prevented from availing themselves of its bounty, it assists even further. In cases where no other resources are available, it furnishes free of expense to the pupils who come clothing and transportation to and from the schools.[1] Such charges are usually paid by the counties in which the pupils reside, though in a few instances they are assumed directly by the State. For this purpose a given sum may be allowed, or the actual cost may be collected from the proper fiscal authorities.[2]

Age Limits of Attendance

With most of the schools for the blind, the age limits of attendance are fixed, and pupils may be admitted only within the time prescribed. The limits may be established by the law, may be determined by the trustees or other managing body of the school in the form of regulations, or may be laid down by the responsible head of the school. The first is the most usual procedure, and the last the least frequent. Where no limits are fixed by the statute, the matter is left to the discretion of the authorities. In some schools the age permitted is the common school age, and in others pupils are admitted who are of "situable age and qualifications" or of "suitable age and capacity."[3] Even where fixed limits are the case, they are not rigidly adhered to or closely observed, and considerable elasticity may be

[1] In certain cases pupils, especially if without a home, may be allowed to remain at the schools during vacation time.

[2] In all the institutions medical attention is provided for, and in many, ocular examination also. In Iowa, Louisiana, and Michigan the law authorizes treatment at the hospital of the State University. In North Carolina special accommodations are directed for the curable. In Georgia free transportation on a State-owned railroad has been allowed.

[3] In certain instances persons past school age are allowed to attend for the purpose of learning a trade.

allowed in their application.[1] There is a very general tendency to permit pupils to enter at whatever age and to remain for whatever number of years will be of benefit to them, and not to the detriment of the school.[2]

In schools where the limits of attendance are specified, the minimum age is usually six, seven, or eight, while in a small number it is five or even less, and in a few nine. The age limit for the completion of the school period is generally nineteen, twenty, or twenty-one, though in a few it may be as high as twenty-five. In day schools the limits are sometimes different, there occasionally being a lower limit of three. The most frequent age period at present, where such is definitely stated, is from six to twenty-one, though several other periods are almost as common. In some cases pupils are allowed to remain in school a certain number of years, with sometimes an upper limit as to age. In a number the period may be extended several years when the progress of the pupil seems to justify a more protracted residence.[3] Finally, it is to be noted that the limits of attend-

[1] Thus in the case of the Michigan School it is said: "The age period is from seven to nineteen, with a little leeway either way." Proceedings of Michigan Conference of Charities and Correction, 1906, p. 19. In West Virginia it is provided by law that the ages in which pupils may be received at the school are from eight to twenty-five, "and as much longer as in the discretion of the board and principal their condition and progress would seem to justify." In Oklahoma the age limits are six and twenty-one, but below or above them at discretion. In South Dakota the limits are between six and thirty, but there may be an attendance above or below such limits "where circumstances permit." In a number of cases we are advised that the limits set are flexible. On the subject of age periods for the blind, see Report of Michigan School, 1896, p. 15; New York State School, 1896, p. 28; 1903, p. 24; Pennsylvania Institution, 1907, p. 79; Proceedings of 1st International Congress in America on the Welfare of the Child, 1908, p. 324.

[2] The age for receiving very young children often depends on the special care required by them and on their capacity for education.

[3] The formal age period is from 6 to 21 in Arizona, Idaho, Kansas, Minnesota, North Carolina, Oklahoma, Tennessee, Texas, and Washington; from 7 to 21 in North Dakota; from 8 to 21 in Indiana, New York (New York Institute), and Wisconsin; from 5 to 21 in California, Iowa, New Mexico, and New York (New York State School); from 5 to 19 in Massachusetts; from 6 to 18 in Mississippi; from 7 to 25 in Georgia; and from 9 to 25 in Maryland. In Colorado and Florida the period of attendance is from 6 to 21, and in Arkansas from 6 to 26, with an extension of the upper limit in each case if advisable. In Alabama pupils between the ages of 7 and 21 may remain 10 years, with an extension to the age of 25. In Maine, Oregon, and Rhode Island the period is 10 years, an extension being allowed in all three. In New Jersey the period is 3 years, with an extension of 8, and a still further one.

ance have in general been lowered, and have been more and more made to conform with those in the regular schools.[1]

In Delaware the period is 5 years, which may be extended 7 more. In New York an attendance of 5 years is allowed, which may be increased by 3 years, and again by 3. In Kentucky the limits are 6 and 18, which may be extended. In Michigan the limits are 7 and 19, with attendance above or below these limits, and the period of attendance 12 years, which may be extended to 14. In West Virginia the limits are 8 and 25, with an attendance of 5 years, which may be extended. In Montana the limits are 6 and 21, with a residence of 10 years, which may be extended by 2. In New Mexico the limits are 5 and 21, though pupils below the lower age may be admitted. In Virginia the limits are 8 and 21, with a residence of 10 years, which may be extended. In South Dakota the limits are 6 and 30, with a period of attendance of 10 years, which may be increased by 3. In Missouri the limits are 6 and 20, with a residence of 12 years allowed, which may be extended. In Louisiana the limits are 7 and 22, pupils entering under 14 being allowed to remain 10 years, entering between 14 and 17 to remain 8, and entering over 17 to remain 5—with an extension of 2 years in each case. In Ohio the lower limit is 6 years, and pupils entering under 14 may remain to the age of 21, and between the ages of 14 and 21 for 7 years, an extension after the age of 21 being allowed for learning a trade, in the case of boys of 1 year, and in the case of girls of 3 or more. In Wyoming there is only a lower limit of 6 years; and in Utah, only an upper limit of 30. In Vermont the period is from 5 to 18, after which further provision may be made, this being especially of an industrial nature after 14. In Pennsylvania the period of attendance is 12 years, but no fixed limits are set above or below which pupils may not be received. In some cases the extra time allowed at the schools is mainly for the purpose of learning a trade, as in Arkansas, Iowa, New York (New York State School), and Ohio. This may be one or more years. In Iowa in such case permission must be granted by the State board of education. In the day schools of Ohio the lower limit is 3, and in those of Illinois the limits are 3 and 21. For authorized day schools in Minnesota the limits are 4 and 10; and in Pennsylvania, 6 and 21.

[1] We have already noticed that in times past the age of admission tended to be high, and the period of attendance to be short. Compared with those for the deaf, the age periods for the blind are found to be somewhat higher both in their upper and in their lower limits, though in many States the periods are the same for both classes. The other restrictions upon attendance, adopted in a greater or less number of States, refer chiefly to the possession by the applicant of a sound mind; freedom from disease, especially an infectious one; and good moral character. Occasionally a statement with respect to citizenship is necessary. A not infrequent formal requirement in addition is that the applicant be so defective in eyesight as to be unable to receive an education in the common schools. Sometimes applications must be accompanied by affidavits from two or more citizens, or by a certificate from a judicial officer. In several States it is provided that in case there should be a larger enrollment than there are accommodations for, pupils are to be apportioned among the different counties. In Kansas pupils are received only when the parents have a legal residence in the State, they being given the benefit of any doubt. In Nevada prospective pupils over twenty-one years of age may be provided for only after a residence in the State of five years. In Rhode Island it has been held by the court that in case of the appointment of a deaf pupil to a school outside, this State having none of its own, the removal of his parents to another State does not affect the status of such pupil, his original appointment being effective to the end of his course. 4 R. I., 587 (1857). In Kansas it has been held that the juvenile court laws do not authorize commitments to schools for the blind. Report of Kansas Board of Control, 1906, p. 326. It may be noted, finally, that the schools are often given power to dismiss undesirable pupils.

CHAPTER XXI

ATTENDANCE OF THE BLIND AT THE SCHOOLS

Extent of Education among the Blind

With provision for the instruction of the blind made in all the States, the question presents itself as to the extent to which the blind avail themselves of their privileges. In considering the matter, it may perhaps be best at this place to take up the subject of the extent of education generally among the blind. Though it may appear logically to be related to the early part of our work dealing with the condition of the blind as a class, yet because of its bearings upon the activities and results of the special schools created for them, it seems on the whole most fitting to make examination at the present juncture.

In the following table are presented the percentages of the blind, classified also as to sex and race and nativity classes, according to their present or former attendance at school, and according to the form of school concerned, as found for 25,842 persons five years of age or over returning the special schedules in connection with the census of 1910.[1]

[1] "The Blind in the United States," 1917, pp. 128–133. See also "The Blind and the Deaf," 1906, p. 17. It is to be regretted that the statistics given are not to be accepted on their face. They may not be altogether without value, however, especially in respect to attendance at institutions for the blind. Wherever they are not in keeping with what seems actually to be the case, as brought out in the census report, due note is made.

ATTENDANCE OF THE BLIND AT SCHOOL

	Total	Male	Female	Native-born whites	Foreign-born whites	Negroes
Total	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	43.1	43.8	42.2	49.7	34.7	19.2
Having attended special school or workshop for the blind	23.2	23.4	23.0	28.3	13.0	9.2
Having attended other schools also	6.5	7.4	5.3	7.8	4.4	2.4
Common school only	4.0	4.5	3.2	4.8	2.8	1.4
High school or academy	0.9	1.0	0.8	1.1	0.3	0.4
University or college	0.5	0.7	0.3	0.6	0.3	0.2
Schools of miscellaneous character	0.4	0.4	0.5	0.5	0.2	0.2
Schools of character not reported	0.7	0.9	0.5	0.8	0.9	0.3
Having attended no other school	16.7	16.0	17.7	20.5	8.6	6.8
Reporting no other instruction	16.2	15.6	17.1	19.9	8.3	6.5
Reporting private instruction at home	0.5	0.4	0.6	0.6	0.3	0.3
Not having attended special school or workshop for the blind	19.9	20.4	19.2	21.4	21.7	10.1
Having attended—						
Common school only	12.5	12.2	12.9	13.1	14.3	7.
High school or academy	1.7	1.6	1.8	2.0	1.5	0.4
University or college	0.6	0.8	0.4	0.7	0.5	0.3
Schools of miscellaneous character	1.0	1.0	1.1	1.1	1.2	0.6
Schools of character not reported	4.1	4.8	3.2	4.5	4.3	1.7
Not having attended school	56.9	56.2	57.8	50.3	65.3	80.8
Reporting private instruction at home	2.0	1.8	2.3	1.9	2.1	2.3
Reporting no instruction	54.9	54.4	55.5	48.4	63.2	78.5

From this table it appears that a little more than two-fifths (43.1 per cent) of the blind have had schooling, and a little less than three-fifths (56.9 per cent) have not (though, because of the frequent misunderstanding of the questions submitted, the former proportion is almost certainly much too low, and the latter much too high). The proportion having attended a special school or workshop—in all but the slightest number of cases the special school—is a little under one-fourth (23.2 per cent) of all, such representing over one-half of the number who have attended school (though this figure is probably too large, the returns with respect to the special schools being more complete than with respect to others). The comparatively small proportion of the blind who have received instruction in the special institutions provided for them is of course largely explained by the fact that the majority of them were deprived of vision in adult life, or after school age. Of the blind who have been educated in these special institutions, a little under three-fourths have had their schooling exclusively therein, while a little over one-fourth have received

some part of their instruction in other schools (though it is possible that the actual difference between the two groups is not so great, some of the blind who had once attended other schools failing so to state). The blind who have had both forms of schooling are mainly those who had, when in the possession of sight, commenced their education with the seeing, but because of its loss had been compelled to turn to a special institution, though a certain number are included who took up work at an institution for the seeing after a course at a school for the blind. The proportion having attended schools for the seeing only is one-fifth (19.9 per cent), representing in general persons whose education was received before the advent of blindness.

The percentage of the blind whose education has been at a common school, or with the seeing, is 16.5; at a high school or academy, 2.6; at a college or university, 1.1; and at a school of a miscellaneous character—including schools for the deaf, institutions for the feeble-minded, and private and professional schools—and of a character not reported, 6.2. The proportion for those who have had education with the seeing only is in nearly every case several times that for those who have had it both with the seeing and with the blind. By 2.5 per cent of the blind, including a very small proportion of those who reported no school attendance at all, private instruction is stated to have been received at home. This private instruction, however, instead of being under regular teachers or tutors, amounted in many cases to little more than occasional and unsystematic efforts on the part of one's family.

The percentage for males who have attended school is slightly greater than that for females, being 43.8 for the former, and 42.2 for the latter. Such is also the case with respect to attendance both at special institutions for the blind and at schools for the seeing, or 7.4 as against 5.3. On the other hand, the percentage of females having attended an institution for the blind exclusively is larger than that for males, being 17.7 for the former and 16.0 for the

latter. The reason for the higher ratio of females at the special institutions is probably to be accounted for by the circumstance that among them blindness falls in early life rather more frequently, or at a time when they may be educated at such institutions. The proportion who have received private instruction at home is likewise greater for females than for males, being 2.9 per cent for the one, as against 2.2 per cent for the other—perhaps to be taken to mean that home teaching is carried on the more extensively among blind women than among blind men. The percentage having a college education is 1.5 for males, and 0.7 for females.

With the race and nativity classes very considerable differences are to be found. In the matter of general school attendance, native-born whites have a proportion approximately one-half greater than foreign-born whites, and two and one-half times greater than Negroes, the respective percentages being 49.7, 34.7, and 19.2. In attendance at special institutions for the blind the proportion for native-born whites is more than double that for foreign-born whites, and more than three times as great as that for Negroes, the respective percentages being 28.3, 13.0, and 9.2; while in exclusive attendance at such institutions the disparity is even more pronounced, the respective percentages being 20.5, 8.6, and 6.8. In attendance at general schools for the seeing, as distinguished from the special ones for the blind, the proportions for the two classes of whites are about equal, being 21.4 per cent for the native born and 21.7 per cent for the foreign born, which are practically twice the proportion for Negroes, amounting to 10.7 per cent. These figures make particularly clear the inferior extent of education among the Negro blind, the significance of which is only in part offset by the fact that blindness is of relatively less frequent occurrence in early life among this race.[1] The low ratio

[1] It may be added that with respect to "colored" persons other than Negroes the proportion having attended school is but 15.9 per cent, and the proportion at a special institution for the blind but 5.0 per cent.

for the foreign-born whites at the special institutions for the blind is primarily due to the smaller incidence of blindness in early life among them.

The following table gives, according to age, the percentages as to general school attendance.

ATTENDANCE OF THE BLIND AT SCHOOL ACCORDING TO AGE

	5 to 9	*10 to 14*	*15 to 19*	*20 to 24*	*25 to 44*	*45 to 64*	*65 or over*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	51.5	72.9	78.5	74.8	62.8	41.4	25.0
Having attended special school or workshop for the blind	46.2	64.6	69.9	61.7	44.2	18.1	3.1
Having attended other schools also	5.0	9.8	15.9	17.7	14.1	5.8	1.0
Having attended no other school	41.2	54.9	54.0	43.9	30.1	12.3	2.1
Not having attended special school or workshop for the blind	5.2	8.3	8.6	13.1	18.5	23.0	21.8
Not having attended school	48.5	27.1	21.5	25.2	37.2	58.8	75.0

So far as is evidenced from these statistics, much the best showing with respect to school attendance is made by the blind between the ages of ten and twenty-four, or during what may be considered their practical school age, the period from five to nine not being so favorable, perhaps because the entry of blind children into school has not generally begun then. The highest proportion as regards attendance is found for those between fifteen and nineteen, being more than three-fourths (78.5 per cent), though the proportions for those between twenty and twenty-four and between ten and fourteen are not much lower (74.8 per cent and 72.9 per cent, respectively). After the twenty-fourth year there is a very rapid decline, the proportion beyond the sixty-fourth year being but one-fourth (25.0) (though the very smallness of this figure calls in question the complete accuracy of the returns). With regard to attendance at the special institutions for the blind, very much the same order holds, with, however, a much more pronounced fall in advanced years. The proportion for those between fifteen and nineteen is over two-thirds (69.9 per cent), between ten and fourteen nearly two-thirds (64.6 per cent), between twenty and twenty-four over three-fifths (61.7

per cent), and between five and nine somewhat under one-half (46.2 per cent). Similar are the results as to exclusive attendance at such institutions, the percentages for those between ten and fourteen being 54.9, between fifteen and nineteen 54.0, between twenty and twenty-four 43.9, and between five and nine 41.2. In the matter of attendance both at institutions for the blind and at institutions for the seeing, the tendency is chiefly modified by the projection of the higher proportions farther into adult life, the greatest percentage being for those between twenty and twenty-four (17.7), between fifteen and nineteen (15.9), and between twenty-five and forty-four (14.1). In attendance only at schools for the seeing the effect is the opposite. The proportions gradually increase from the start, or from 5.2 per cent, to the sixty-fourth year, being nearly one-fourth (23.0 per cent) for those between the ages of forty-five and sixty-four, and but a little less (21.8 per cent) for those older. The better showing in attendance of the younger blind at institutions for the blind, and of the older at institutions for the seeing, is to be explained by the circumstance that the former had lost sight at a time when admission into a school for the blind was possible, whereas the latter had lost sight after such school age, what education they have had having been with the seeing.

The next table gives in detail, according to age of occurrence of blindness, the percentages as to attendance.

ATTENDANCE OF THE BLIND AT SCHOOL ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS

	Under 20	*Under 5*	*5 to 9*	*10 to 14*	*15 to 19*	*20 or over*	*20 to 24*	*25 to 44*	*45 to 64*	*65 or over*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	70.6	69.2	74.7	74.5	65.3	30.1	54.6	37.4	26.2	21.9
Having attended special school or workshop for the blind	61.3	65.0	66.0	58.7	42.2	5.0	24.6	9.2	1.9	0.2
Having attended other schools also	13.9	8.2	15.2	24.3	24.3	3.0	14.5	5.7	1.2	0.1
Common school only	8.6	4.3	9.7	17.4	15.6	1.8	8.5	3.4	0.6	0.1
High school or academy	2.0	1.6	2.4	1.9	3.6	0.4	1.9	0.7	0.2	.....
University or college	1.2	0.9	1.4	1.8	1.7	0.2	0.6	0.3	0.1	.....
Schools of miscellaneous character	1.1	1.1	1.1	1.3	0.6	0.1	0.1	0.1	0.1	.....
Schools of character not reported	0.9	0.2	0.6	1.9	2.8	0.7	3.5	1.2	0.3	.....
Having attended no other school	47.4	56.8	50.8	34.4	17.9	2.0	10.0	3.6	0.7	0.1
Reporting no other instruction	46.1	55.2	49.2	33.5	17.3	1.9	9.5	3.4	0.7	0.1
Reporting private instruction at home	1.3	1.6	1.6	0.9	0.6	0.1	0.5	0.1	0.1	.....
Not having attended special school or workshop for the blind	9.2	4.2	8.7	15.8	23.2	25.1	30.0	28.2	24.3	21.7
Having attended—										
Common school only	6.2	2.0	6.3	11.6	16.8	15.5	20.3	17.4	14.6	13.7
High school or academy	0.7	0.4	0.8	0.3	2.2	2.2	2.6	2.7	2.1	1.6
University or college	0.2	0.2	0.1	0.2	0.4	0.9	1.2	1.1	0.7	0.7
Schools of miscellaneous character	1.1	1.4	0.6	1.3	0.6	0.9	1.4	0.7	0.9	1.0
Schools of character not reported	1.1	0.3	0.9	2.4	3.1	5.6	4.6	6.3	6.1	4.6
Not having attended school	29.4	30.8	25.3	25.5	34.7	69.9	45.4	62.6	73.8	78.1
Reporting private instruction at home	2.3	2.5	2.2	2.1	1.7	1.9	2.0	2.3	2.1	1.2
Reporting no instruction	27.2	28.4	23.1	23.4	33.0	68.0	43.5	60.2	71.7	76.9

In this table not less apparent is the creditable standing in respect to education of the blind who lost their sight in early life, in contrast to that of the blind who lost it in later life. The proportion having attended school of those who became blind under twenty years is over two-thirds (70.6 per cent), while the proportion of those who became so at a subsequent age is less than one-third (30.1 per cent) (though, as before, doubt as to the full accuracy of the returns is raised by the smallness of the latter figure). The proportion is highest for those whose blindness occurred between five and fourteen, being practically three-fourths, with a not much lower one for those whose blindness occurred under five and between fifteen and nineteen (69.2 per cent and 65.3 per cent, respectively).

After the last named period the proportion steadily declines, being only a little more than one-fifth (21.9 per cent) for those deprived of vision when sixty-five or over. In attendance at special institutions for the blind an even greater disparity is shown between those who became blind under the twentieth year and those who became blind thereafter, the percentage for the former being 61.3 and for the latter 5.0. The proportion is largest for those losing sight between five and nine years and under five, being nearly two-thirds (66.0 per cent and 65.0 per cent, respectively), after which there is a rapid fall, the percentage for those losing sight after sixty-four being insignificant (0.2). Hardly different are the results with respect to exclusive attendance at such institutions, the percentage for those who lost vision before twenty being 47.4 and for those losing it thereafter 2.0, and the percentages for the several groups decreasing from 56.8 in the first to 0.1 in the last. In respect to attendance both at such institutions and at institutions for the seeing, the percentage for those losing sight before the twentieth year is 13.9, and the percentage for those losing it after this time 3.0, the highest being for those losing it between the tenth and the nineteenth year, or 24.3. In the matter of attendance only at schools of the latter class the situation is the reverse of the foregoing. Here the percentage for those becoming blind under twenty is 9.2, and for those becoming so subsequently thereto 25.1. Beginning with 4.2 for those becoming blind under five, the percentage gradually rises to 30.0 for those becoming so between twenty and twenty-four, after which it slowly declines, being 21.7 for those becoming so after sixty-four. It is entirely probable that the proportions for those losing sight in adult life are really much larger, many of such failing to report their education prior to their affliction.[1]

[1] It may be noted that of the blind reported as having attended a special institution for the blind and an institution of higher learning as well, over three-fourths (78.3 per cent) became blind before their twentieth year, and most likely had been to the latter after their loss of sight; and that of those who had attended only the latter, but one-tenth (9.8 per cent) became blind before the twentieth year. Of 1,480

On the considerable proportion of the blind losing sight under fourteen years who have attended only a school for the seeing or have attended none at all, and on the small proportion losing sight in early adult life who have attended a special institution, the census report thus comments:

> The fact that more than one-third of those who lost their sight during infancy or childhood (under 15 years) had never been to a special school for the blind, which means, of course, in the majority of cases, that they had received practically no instruction of any kind to help them in meeting the disadvantages resulting from their defect, indicates that there is still considerable room for improvement in extending the benefits of education to the blind, although of course some of those losing sight at this period of life were by reason of physical or mental weakness unable to attend school. Similarly, the small proportion of those losing sight in the earlier years of adult life who had ever been to such an institution shows that comparatively little has been done as yet toward giving the blind who lose their sight in the years of economic activity training to help them to self-support.[1]

Proportion of Blind Children in the Schools

Our inquiry is now to determine the proportion of blind children who are actually in the schools provided for them. We have just seen that, according to the census returns, of the blind from five to twenty-four years of age, or of a fairly broad school age, 61.0 per cent have attended the special institutions. We have also learned that of the blind losing sight under the fifteenth year, or at a time when admission into a special school was possible, 62.1 per cent have so attended. If, furthermore, we compare the total number of blind persons reported in the census of 1910 to be between the ages of five and nineteen, which may be

blind persons investigated in Ohio, 1,050, or 70.6 per cent, were found to have attended the common schools, 383, or 25.2 per cent, schools for the blind, and 75, or 5.1 per cent, a high or special school. Report of Ohio Commission for the Blind, 1908, p. 15.

[1] "The Blind in the United States," p. 133.

regarded as a more or less representative school age,[1] with the actual number of the pupils reported by the United States Commissioner of Education as in attendance at the special schools in that year, we may perhaps find the nearest approach to a statement of the true situation. The number enumerated as of such age is 5,445, and the number enumerated as in attendance is 4,323; and hence it would appear that some four-fifths, or 79.4 per cent, of the blind children of the country at large are in the special schools.[2]

For more particular presentations of the matter, we may turn to estimates made in certain individual States with regard to the number of the blind in them who are not in attendance at the schools, based upon more or less exact knowledge, or upon more or less careful inquiry. Here less encouraging conditions are revealed. In Illinois the proportion of blind children out of school who should be in is given as 35 per cent by some authorities, and as 50 per cent by others.[3] In New York the proportion is said to be 50 per cent, with 300 children out of school; [4] in New Jersey, 65 per cent; [5] and in Kentucky, 70 per cent.[6] In South Dakota over one-half of the number of blind children of

[1] This age period, however, is not the average or the most usual one, and for that reason the validity of our estimates are somewhat affected.

[2] There can be little question that the proportion of the blind in the schools has increased in the course of the years. The number between the ages of five and nineteen in 1910 represents 9.5 per cent of the total number of the blind. If this be taken as the normal proportion for this age, the number of such age in 1880 should be 4,648, whereas the total number of pupils in school was 2,032, or 43.8 per cent; the number of such age in 1890 should be 4,803, whereas the number in school was 3,215, or 66.9 per cent; the number of such age in 1900 should be 6,152, whereas the number in school was 4,021, or 65.4 per cent; and the number of such age in 1910 should be 5,445, whereas the number in school was 4,323, or 79.4 per cent.

[3] Institution Quarterly, iii., 1912, 2, June, p. 40; Report of Illinois Board of Charities, 1908, p. 222; Report of Board of Administration, 1910, p. 564; Report of Illinois School, 1910, p. 10. There have also been said to be as many as 100 blind children out of school in this State.

[4] Report of Commission for the Blind, 1906, p. 18; Report of Board of Charities, 1915, i., p. 246. In the New York State School certain counties have been said not to have a single pupil enrolled. Report, 1896, p. 21. See also *ibid*, 1901, p. 12.

[5] *New Jersey Review of Charities and Corrections*, vii., 1908, p. 151.

[6] Report of Kentucky School, 1906, p. 23; 1909, p. 23; 1914, p. 27; 1916, p. 27. Less than one-half are also said to be in school. Message of Governor, 1914, p. 50.

school age are reported to be out.[1] In North Carolina less than half of the blind children of the State are declared to be in school; [2] and with respect to the situation in Texas a similar statement is made.[3] In Tennessee only 20 per cent of the blind children of the State are asserted to be in school,[4] and in Missouri only a third.[5] In Michigan we are told that out of 455 blind children in the State, only 131 were to be found in the school at one time.[6] In Ohio "hundreds" are said to be out of school; [7] and in Wisconsin it is announced that there are "many blind children growing up in ignorance." [8] From inquiries directed to the schools, we find with some the situation to be little changed, though with others a more favorable showing to be made, especially of later years.[9]

If the figures of the foregoing estimates are trustworthy, we have an array of evidence that is startling. If they may be taken as representative of general conditions in the country, there is found to exist what is nothing less than a shocking state of affairs. It means that, with full allowance made for the small proportion mentally or physically unfit for schooling, only a part of the blind children of the United States are taking advantage of the educational opportunities put before them. The situation is better in some States than in others, but in very few can it be called fully satisfactory. For a certain number of the blind children it is probable that resort is had to the schools

[1] Report of South Dakota School, 1912, p. 114.

[2] Report of North Carolina School, 1900, p. 19; 1902, p. 11; 1873, p. 8. In this State 100 blind children are said also to be out.

[3] Report of Texas School, 1911, p. 5.

[4] Report of Tennessee School, 1901, p. 15.

[5] Report of Board of Charities and Corrections, 1910, p. 70.

[6] Proceedings of Michigan Conference of Charities and Correction, 1908, p. 34; 1906, p. 22.

[7] Report of Ohio School, 1906, p. 7.

[8] Report of Wisconsin School, 1908, p. 254. On the number of blind children out of school, see also Report of Indiana School, 1900, p. 32.

[9] We are advised that the proportion in school in Kansas is one-fifth; in Arkansas and Texas, one-third; in Florida and Kentucky, two-fifths; in Nebraska, one-half; in Alabama and North Carolina, two-thirds; and in Pennsylvania, from two-thirds to three-fourths. In Montana and Utah "practically all" are said to be in school. In Wisconsin only ten cases not in school are known.

for a longer or shorter time, though what proportion these constitute of the whole we do not know. In the preceding chapter we have seen what are the limits of attendance. It now seems to be established that only a part of them are in the schools the full time allotted them, these neglecting to utilize their educational facilities as they should.[1] For a larger number, however, it is likely that such facilities fail altogether to be availed of, these passing by as though their schools had no existence. But whatever the respective proportions of those who enjoy to some extent, and of those who do not enjoy at all, their opportunities for instruction, it is quite certain that with a very great number of the blind children of the country the work of the schools is not permitted to have full effect.

Need of Compulsory Education Laws for the Blind

The situation, then, with respect to the effective attendance of the blind at the schools created for them is a very deplorable one. We are confronted with the discovery that a large proportion of blind children—from one-fourth in some States to more than one-half in others—are receiving at the most but a part of the schooling they should. Conditions are not the same in all the States, being better in some than in others, but in practically all they are such that earnest and immediate attention is demanded.

For this state of affairs the schools for the blind, it may be stated at the outset, are not to be held accountable. The fault does not lie with them. The school authorities are in general more than zealous in their efforts to reach all the blind children and to bring them in, and usually leave no stone unturned to accomplish this result.[2] The

[1] In the Pennsylvania Institution two thirds of the pupils remain over five years, and one third over ten. The length of stay depends on physical condition, mentality, age of loss of sight, ambition, home influences, etc. Such are also the main factors in regard to the age of admission. See W. C. Posey, "Hygiene of the Eye," 1918, p. 288.

[2] In several States "field officers" are of great help in finding children and prevailing upon them to come to school. In other States a similar work is done by special

doors of the schools are open wide, and all the blind who will may receive an education.[1]

The seat of the trouble must be looked for elsewhere. For that portion of the blind who make incomplete use of the schools, this circumstance is probably in part to be ascribed to the lateness of the age at which pupils enter school, and perhaps in small part to a tendency, no less evident in schools for the seeing generally, of pupils to leave before their time is up.[2]

The responsibility for the conditions, especially so far as they relate to those who remain entirely away from the schools, belongs probably in the largest degree with the blind themselves, or rather with their parents. It happens very often that blind children are the objects of special regard, or even of favoritism, in their homes, and are granted indulgences not accorded to their seeing brothers and sisters. The prospect of the separation of the blind child from its family, even for the purpose of education, seems peculiarly painful; and if to this is added, as is often the case, the equal unwillingness of the child to part from the home, the situation becomes one far from easy to deal with. A still remaining factor in the situation in not a few instances is the ignorance which parents actually have with regard to the existence of the school—though this is proving of lessening extent through the efforts of the schools and other agencies to carry this knowledge to the farthest corners.

agents. By some schools the names of blind children not in school are published in their reports. On efforts to reach blind children, see Report of Missouri School, 1897, p. 3; Nebraska School, 1892, p. 30; North Carolina School, 1894, p. 5; Tennessee School, 1899, p. 43; Colorado School, 1900, p. 8; New Mexico School, 1907, p. 6; Wisconsin School, 1914, p. 3.

[1] It has sometimes happened that the facilities of a school are already overcrowded, with perhaps a waiting list of prospective pupils. This, however, does not render the need any the less. It should be the duty of the state to provide sufficient accommodations for all of the blind who are entitled to an education.

[2] The proportion of children of school age not in the regular schools is found to average 21.8 per cent for all the States, ranging from 7.3 per cent to 44.7 per cent. Russell Sage Foundation, Comparative Study of Public School Systems in Forty-eight States, 1912. It is stated that 85 per cent of the children entering the regular public schools leave between the ages of twelve and fifteen. F. M. Leavitt, "Examples of Industrial Education," 1912, p. 54.

But whatever the causes of the failure of blind children to attend their schools, and to avail themselves fully of the educational opportunities of the state, the interests of these very children enjoin a change. The only completely effective remedy is the enactment in all the States of strict compulsory education laws for the blind, to include not merely attendance at the schools, but an attendance for a sufficient number of years and for a sufficient length of time each year—and the uncompromising enforcement of such laws.

Without the strength and backing of the statute, all efforts, however creditable and persevering they may be, are not likely to be of full avail. Only through the law can the necessary results be secured. Hard as it may seem, in the enforcement, to take a blind child from its home, especially if in its tender years, and separate it from its family for a number of months at a time, the compensating benefits, direct and indirect, are so great as to overcome all other considerations. Nothing at all, in fact, should be allowed to interfere with the operation of the law. It is the only course if blind children are not to grow up in ignorance and without schooling, and if their real interests are to prevail.[1]

[1] On the need of compulsory education laws for the blind, see Proceedings of American Association of Workers for the Blind, 1911, p. 102; Proceedings of Pennsylvania Association of Directors of the Poor and of Charities, 1901, p. 77; Report of New York State Board of Charities, 1903, p. 495; 1911, p. 245; Report of Iowa Board of Control, 1903, p. 43; Report of Oklahoma Commissioner of Charities and Corrections, 1912, p. 429; Report of Tennessee Board of State Charities, 1917, p. 23; Report of Maryland Board of Charities and State Aid, 1913, p. 143; Quarterly Representing Minnesota Educational, Philanthropic, Penal, and Correctional Institutions, xvii., 1917, 1, Aug., pp. 16, 30; Message of Governor of West Virginia, 1917, p. 88; Illinois Institution Quarterly, ix., 1918, 1, March, p. 43; Report of North Carolina School, 1876, p. 18; 1896, p. 6; 1898, p. 6; 1901, p. 11; 1906, p. 11; 1908, p. 9; 1910, p. 9; Iowa School, 1882, p. 20; Pennsylvania Institution, 1888, p. 20; New York Institute, 1887, p. 18; Michigan School, 1898, p. 17; New York State School, 1897, p. 14; 1902, p. 29; 1903, p. 25; Tennessee School, 1901, p. 11; 1903, p. 18; 1913, p. 18; Illinois School, 1906, p. 17; Maryland School, 1913, p. 9; Oklahoma School, 1912, p. 15; 1914, p. 13; *Voices from Darkland*, June, 1916.

Present Extent of Compulsory Education Laws

Aside from the compulsory education laws of a general nature, which may have more or less application to the blind, we have enactments specifically referring to them in more than one-half of the States, nearly all having been placed upon the statute books since 1900. These States are California, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Washington, and Wisconsin.

In some States, as Massachusetts,[1] New York, Ohio, and Vermont, the provisions of the general compulsory attendance laws with their age-periods, fines, etc., expressly apply to the blind. In most cases, however, there are special requirements for the blind.[2] The period of attendance specified may be the full school year, but more often a part, as five, six, or eight months.[3] The term for which attendance is required is either a designated number of years, as five or eight, or a period between certain age limits, as from eight to sixteen, from seven to eighteen, and the like.[4] The penalty for violation of the law is usually a fine

[1] In Massachusetts it is provided that a child may be excused by "no physical or mental condition."

[2] An exception is sometimes made if instruction of the proper character is provided at home. In most cases the laws apply equally to the deaf. In several States the law is not to apply to children who are the support of their families. In North Carolina parents must first be notified by the school.

[3] The time is 5 months in Kansas; 6 months in Delaware, Montana, Oklahoma, Oregon, and Utah; 8 months in Maryland, North Dakota, and Wisconsin; and 9 months in North Carolina.

[4] The number of years is 5 in California; 7 in New Mexico; and 8 in Delaware, Maryland, Montana, and North Carolina. The age limits are 5 and 18 in Vermont; 6 and 18 in Maryland; 7 and 21 in New Mexico; 6 and 21 in Washington; 7 and 17 in North Carolina; 7 and 18 in Delaware, Nebraska, and Rhode Island; 7 and 19 in Michigan; 7 and 21 in Kansas, North Dakota, and Oklahoma; 8 and 16 in Indiana; 8 and 18 in Illinois, Montana, Ohio, Oregon, and Utah; 8 and 20 in Minnesota; and 12 and 19 in Iowa. In Wisconsin the limits are 6 and 18, but not applying to persons over 16 who have a general education, or who have passed the eighth grade. In Pennsylvania children from 8 to 16 may be required to enter a school, after reporting by local medical inspectors.

of varying amounts, as from five to two hundred dollars, with now and then imprisonment as an alternative or added punishment, the offense sometimes being characterized as a misdemeanor.[1] In a few instances punishment is also prescribed for persons who attempt to induce a violation of the law.[2] In certain States truancy officers are expressly designated to enforce the provisions of the statute.[3] In some cases there is special judicial procedure to secure their enforcement.[4]

It would be highly desirable if we knew with some definiteness what have been the results of the present laws. In some States the situation is said to be but little improved, chiefly because of the slight effort put forth for the enforcement of the statutes. So far as this is the case, further measures, with more determined and insistent carrying out of the provisions, are required. There is no question, however, that on the whole there has been gain through the laws.[5] This may perhaps be evidenced in the better attendance at some of the schools of recent years, to which reference has been made.

In addition to the compulsory education laws for blind children, there are in a number of States statutory provisions which may be of greater or less avail in bringing children into the schools, or at least of acquainting the schools

[1] The amount of the fine is $5 (maximum) in Maryland; $10–$50 in Indiana; $2–$10 in Delaware; $5–$20 in Illinois and Minnesota; $20 in Rhode Island; $5–$25 in Montana (for later offenses $25–$50), Nebraska, Oregon, and Vermont; $5–$50 in Wisconsin; $25 in Iowa (or with imprisonment to 8 days) and New Mexico (or imprisonment to 30 days); $100 in Kansas; $5–$200 in Washington; and $200 in Michigan. In California, Michigan, North Carolina, Utah, and Washington the offense is a misdemeanor.

[2] In Iowa such offense is a misdemeanor, with the same penalty as for other violations. In Minnesota and Maryland it is a misdemeanor, punishable by a fine of from $5 to $20 in the former State, and by a fine of not over $50 in the latter.

[3] Such is the case in Illinois, Kansas, Maryland, Michigan, Minnesota, Nebraska, Ohio, and Oregon. In Michigan the school furnishes blank forms to the truant officers, and advises them with regard to absentees.

[4] In some States, as Connecticut, Oregon, South Dakota, and Wisconsin, there may be instituted certain judicial proceedings, with due hearings, after which the child may be ordered to be committed to school.

[5] See *Outlook for the Blind*, ix., 1915, p. 69; Report of Massachusetts Commission for the Blind, 1914, p. 14.

with the existence of such children. These requirements are of two kinds. The first is the enumeration of blind children by some local civil officer, usually a county assessor, and less often a county clerk, county recorder, census marshal, or other official, or, especially in New England, town selectmen—occasionally by more than one such official—with report thereof in some cases directly to the school authorities.[1] The second is the notification of the school authorities of the blind children discovered, by local educational authorities, usually the county superintendent of schools, and occasionally by the school clerk of an education district—sometimes through the State department of education.[2] In some States both of these regulations exist, and the schools in them have thus double means of finding blind children.[3] In certain instances assistance also comes from the activities of health officers, children's bureaus, and other public agencies. Finally, it may be stated that the increasing operations of State commissions, home teaching, and other agencies for the blind are having a not unimportant effect in getting children into the schools.[4]

[1] Such is the case in Connecticut, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Utah, Vermont, Washington, West Virginia, and Wisconsin.

[2] Such is the case in Arizona, Colorado, Idaho, Iowa, Maryland, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Utah, Virginia, Washington, and Wisconsin. In the District of Columbia justices of the peace make report. In Michigan and Wisconsin further procedure is necessary. In Wisconsin school superintendents are required to have information regarding the school on hand, and to keep record of blind children in the State and of efforts to get them in. In Michigan there must be separate classification of blind children in the statistics collected by county assessors; superintendents of the poor of the several counties must send the names of the indigent blind to the school; and the Secretary of State and the school census enumerators must send the names of all blind children to the school authorities, and the census enumerators also to the State superintendent of public instruction.

[3] The work required of some of these local officers does not often seem to be effectively done. See Report of North Carolina School, 1908, p. 9; 1910, p. 9.

[4] In many States also assistance in spreading information is rendered by various agencies, especially newspapers.

CHAPTER XXII

FORMS OF INSTRUCTION GIVEN IN THE SCHOOLS

Intellectual Instruction

The instruction or training afforded in the schools for the blind may be said to be of four main forms: intellectual, physical, musical, and manual. The first of these naturally constitutes the core of their work, and represents their primary function, though the others receive, relatively, more attention than is the case in schools for the seeing. In the literary education offered the general lines of procedure follow closely those of the regular schools, the courses of study provided in the one corresponding with those provided in the other. The work for the blind of a pedagogical character in fact keeps pace in practically all particulars with that for the sighted.[1] The one distinction involved in the instruction of the two consists in the apparatus employed, the blind requiring a specially devised system of raised print for their text-books and for their writing and other notation.[2] The standards of education maintained in the schools for the blind have constantly advanced; and many of them in their academic achievements have reached a high plane.[3]

Pupils in the schools are taken through the primary, intermediate, grammar, and high school grades. In most cases there is also a preliminary period of kindergarten in-

[1] On comparison of the education of the blind with that of persons with sight, see Report of United States Commissioner of Education, 1883, p. clxvi.; *Outlook for the Blind*, ix., 1915, p. 48; Report of New York Institute, 1899, p. 19; 1903, p. 19; W. B. Wait, "Short Study in Comparative Education," 1900; W. B. Wait, "Short Study in Comparative Education, no. 2," 1903.

[2] The forms of raised print used by the blind are considered in Chapter XXVI.

[3] Indeed, it may be said that the regular schools owe something to the methods that have been worked out, and to the results attained, in schools for the blind.

struction.[1] Pupils who have completed the prescribed course of study are formally graduated.

In the year 1915–1916 there were in the institutions 4,660 pupils, and in the day schools 507 pupils—or a total of 5,167.[2] In the kindergarten departments there were reported to be 465 pupils; in classes corresponding to grades one to four, 1,935; in classes corresponding to grades five to eight, 1,574; and in high school classes, 814. The number of graduates in 1916 was 108.[3] In the institutions there were, during 1915–1916, employed 667 teachers, or one teacher for 7.3 pupils. In the day schools there were 52 teachers, or one teacher for 9.8 pupils.[4] The total number of the blind who have received instruction in the schools in the United States from the beginning is probably somewhat over forty thousand.[5]

[1] Organized kindergarten began at the Perkins Institution in 1887, the result of a campaign to provide for children too young to enter it. On this work, see *Kindergarten Magazine*, xiv., 1901, p. 36; *Kindergarten Review*, xii., 1901, pp. 79, 352; *Lend a Hand*, xii., 1894, p. 336; *Charities Review*, i., 1892, p. 263; *New England Magazine*, xiii., 1895, p. 432; *New England Home Magazine*, v., 1898, p. 330; *Youth's Companion*, Nov. 23, 1893; M. Anagnos, "Kindergarten and Primary School for the Blind, Appeal for Funds," 1884; M. Anagnos, "Kindergarten and Primary Work for the Blind," 1885–1887; C. L. Barker, "Kindergarten for the Blind," 1906; Perkins Institution, Proceedings at Dedication of New Building, 1887; Report of Perkins Institution, 1887, p. 114; Pennsylvania Institution, 1915, p. 83.

[2] These figures are taken in the main from the Report of the United States Commissioner of Education for the year 1917. The number of volumes in ink in the institutions is given as 62,122, and in raised print as 143,034. See Appendix B.

[3] In the different grades are included children receiving instruction in certain of the special homes.

[4] Of the teachers in the schools, usually from one-sixth to one-third are themselves blind. There are no special schools in the country expressly for the training of teachers for the blind, except so far as the purpose may be served by a kind of apprenticeship in the schools. In several cities training to a certain extent is given in connection with the normal schools for teachers in day schools. See *Outlook for the Blind*, ix., 1915, p. 70. See also Proceedings of American Instructors of the Blind, 1916, p. 16. In some States it is required by law that superintendents must be trained teachers. In several States it is provided that teachers who have been in service for more than a certain number of years, as thirty, may be retired on a pension. See Laws of New York, 1915, ch. 615; Statutes of Wisconsin, 1917, § 42.17.

[5] This number is based upon the figures given in the *Outlook for the Blind*, Oct., 1908, with estimates for the schools not included therein.

Physical Training

For the physical development of blind children much more attention is demanded than for children having sight, and perhaps of an extent but little realized by the general public.[1] In the schools the consideration given to this is often, in some respects, second in importance to no other. Facilities for such training generally include physical culture and gymnasium work, together with recreation in outdoor play and sports.[2] Physical development may also be said to include to a certain degree the inculcation of habits of self-reliance in bodily movements, as in the going about alone, and in the performing of certain necessary acts without assistance.[3]

Musical Instruction

Musical instruction has always occupied a prominent place in the work of schools for the blind.[4] This is

[1] "The blind child without training is usually anæmic, undeveloped, poorly nourished, with flabby muscles, and with nervous habit movements." W. C. Posey, "Hygiene of the Eye," 1918, p. 289 (O. H. Burritt). Often at his home a young blind child is granted particular indulgence, and is called upon to do as little as possible for himself. This treatment may in certain cases be carried to such an extent that his learning to walk unsupported or to dress unaided is protracted to a comparatively late day. On this subject, see Proceedings of American Association of Instructors of the Blind, 1888, p. 9; Report of New York Institute, 1898, p. 12. Of the boys at the Pennsylvania Institution, 36 per cent are said to give indications of curvature of the spine, and of the girls 45 per cent. H. R. Burch and S. H. Patterson, "American Social Problems," 1918, p. 274.

[2] On the physical development of the blind, see *Outing*, li., 1908, p. 481; E. E. Allen, "The Physical Education of the Blind" (read before Philadelphia Physical Education Society, April 7, 1906); *American Physical Education Review*, xi., 1906, p. 65; xv., 1910, p. 316; *Mind and Body*, x., 1910, p. 41; Proceedings of American School Hygiene Association, 1910, p. 60; *Craftsman*, ix., 1908, p. 644; *American Magazine*, lxiii., 1907, p. 511; *Popular Science Monthly*, xc., 1917, p. 417; *Scientific American*, cxiv., 1916, p. 355; *Playground*, v., 1911, p. 59; Report of Pennsylvania Institution, 1911, appendix, p. 30; R. T. McKenzie, "Exercises in Education and Medicine," 1909, p. 194; *Technical World Magazine*, ix., 1908, p. 202; *Boston Medical and Surgical Journal*, clxxvi., 1917, p. 803.

[3] In this connection mention may perhaps be made of the teaching of correct habits and manners generally. See *Outlook for the Blind*, xi., 1917, p. 22.

[4] A possibly exaggerated notion of the importance of musical education for the blind has been entertained on the part of the public. There has often been a tendency to believe that nearly all of the blind may become proficient in music, or have more

both vocal and instrumental. In the former is included considerable choral work. In the latter are embraced the piano and organ, and to a slight extent string and wind instruments. In some cases a place is made for harmony and composition. Musical training in the schools, in fact—

> Varies from instruction in the mere elements of music to thoroughly organized courses of study and highly specialized instruction in the science and art of music.[1]

Pupils showing peculiar talent or skill are given full encouragement, special opportunities for development sometimes being provided.

The number of pupils to whom instruction in music is afforded ranges in the different schools from less than half to nearly all, the average being perhaps three-fourths. In the year 1915–1916 the total number reported as given instruction in vocal music was 2,559, and in instrumental 2,682.

Manual Training

Upon manual training an emphasis has been put by the schools from the beginning. To it has been given very full attention, it often claiming the most concern of any form of their work. The purpose of the training is to provide if possible an industrial preparation which will be of benefit in later life, besides affording the rudiments of industrial knowledge.[2] Industrial departments as such may not necessarily be maintained, but manual training of various kinds is extended, which may be useful afterwards, whether in the gaining of a livelihood, or in the discharge of house-

or less musical talent which only needs to be developed. This has been a conception from the very first. "It is said that all of the force of the superintendents of the early schools was required to prevent the institutions from becoming mere conservatories of music." E. E. Allen, "Education of Defectives," 1900, p. 24.

[1] Report of New York Commission for the Blind, 1906, p. 29. On music for the blind, see also *Bookman*, xxvi., 1908, p. 614; *Étude*, xxv., 1907, p. 505; *Music*, iii., 1892, p. 62; v., 1893, pp. 21, 196; *Ohio Harp*, v., 1909, p. 133; Report of Pennsylvania Institution, 1896, p. 60; 1916, p. 12; Perkins Institution, 1916, p. 31.

[2] In some cases industrial training is expressly required by law. On the connection of this industrial training with the later welfare of pupils, see Chapter XXXII.

hold duties. In the latter province are embraced, especially for girls, domestic science and practical housework, of no small moment in the lives of the blind.[1]

The principal trades or industrial subjects taught in the schools, stated somewhat in the order of their relative frequency, are: domestic science, plain and fancy sewing, knitting, weaving, bead work, typewriting, piano tuning, chair caning, broom making, mattress making, raffia work, wood work, basketry, hammock making, mop making, rug making, carpet making, brush making, shoemaking, bookbinding, massage, poultry raising, and gardening.[2] Only the smaller number of these several industries, however, are attempted in any one school, usually not more than half a dozen.[3] In the year 1915–1916 there were reported 3,777 pupils in the industrial departments of the schools.

Work of the Schools in Outside Activities

With many of the schools a noteworthy development has been the undertaking of activities beyond their customary functions, some perhaps amounting to a kind of "extension teaching." These activities are of several kinds. To the adult blind, whether former pupils or other blind persons, the schools may minister in a number of ways. In some cases library facilities are extended, and in a few there is engaged in more or less home teaching in the homes of the blind. In a number of schools there are what are known as "field officers," whose duty it is to visit and assist blind persons in whatever way seems feasible—not the least part being to get into schools all blind children who are out and

[1] This is sometimes called "contributory effort" on the part of pupils. See Report of Perkins Institution, 1910, p. 21; Proceedings of American Association of Instructors of the Blind, 1910, p. 50.

[2] Sloyd is sometimes included as a preliminary course. In a few instances there are experimental gardens and poultry farms; and in one or two, experimental shops, with salesrooms and exhibits, for the purpose of inculcating business methods. Certain trades have been discontinued in some of the schools.

[3] Hours in the trades vary from 2 to 15 a week, with an average perhaps of from 5 to 10. On the amount of time to be devoted to manual training, see Report of Pennsylvania Institution, 1914, p. 28.

to keep the schools informed regarding and in touch with the blind of the State.[1] In the case of some schools not a little is done to secure employment for former pupils and other blind persons, either alone or in conjunction with other agencies, a few even conducting shops for the sale of goods made by the blind. In several instances the plants are used as summer schools for the training of adult blind persons in industrial pursuits.[2] Finally, there is being rendered by the schools more and more service in the way of advising parents with respect to the care of young blind children, and in efforts for the prevention of blindness, especially in spreading information on the subject.[3]

[1] The work of field officers is in many respects similar to that of home teaching, which is later considered. It was commenced by the Pennsylvania Institution in 1903. Field officers are now found also at the Western Pennsylvania Institution, the Perkins Institution, and at the schools in Kansas, Washington, Wisconsin, and a few other States. On this subject, see Report of Arkansas School, 1910, p. 12; Minnesota School, 1914, p. 18; New York State, 1904, p. 53; Texas School, 1915, p. 27; Ohio School, 1909, p. 13; Pennsylvania Institution, 1903, p. 17; 1909, p. 17; 1914 p. 107; Proceedings of American Association of Workers for the Blind, 1907, p. 38; 1911, p. 83; Report of United States Commissioner of Education, 1913, i., p. 472.

[2] On the work of schools in connection with the industrial employment of the blind, see Chapters XXXII–XXXVI.

[3] See Proceedings of National Convention of Mothers, 1898, p. 122; O. H. Burritt, "New Opportunities for Blind Children before Entering School" (read before 1st International Congress of Mothers, March 10, 1908); Conservation of Vision Pamphlets, xviii. ("Preparation for Blindness"); xix. ("What to Do for Blind Children"); *New York State Journal of Medicine*, xvi., 1916, p. 23; Report of New York State School, 1915, p. 21; *Outlook for the Blind*, x., 1916, p. 5; "To the Parents of Blind Children"; "To the Parents of Blind and of Seeing Children," 1893 (translated by E. E. Allen, from report of a school in Austria).

NOTE TO CHAPTER XXII.—On the general work of the schools, see Proceedings of Wisconsin Conference of Charities and Correction, 1893, p. 122; Report of Illinois Board of Charities, 1904, p. 423; Bulletin of Iowa Institutions, i., 1899, p. 55; vii., 1905, p. 137; xii., 1910, p. 147; xiii., 1911, p. 230; Report of Examiners of State Institutions of North Carolina, 1902, p. 75; Illinois Institution Quarterly, iii., 1912, 4, Dec., p. 127; Ohio Bulletin of Charities and Correction, xxiii., 1917, 1, Feb., p. 41; Quarterly Representing Minnesota Educational, Philanthropic, Correctional, and Penal Institutions, xiv., 1915, 3, Feb., p. 82; Proceedings of International Conference on the Blind (England), 1908, p. 81; 1914, p. 450; Report of University of State of New York, 1916, p. 856; Report of United States Commissioner of Education, 1887, p. 838; 1913, i., p. 473; 1915, i., p. 505; Proceedings of American School Hygiene Association, 1917, p. 97; Proceedings of National Education Association, 1902, p. 840; Encyclopedia Americana, 1905, Art. "Blind"; Nelson's Encyclopedia, 1917, ii., p. 137A; "Iowa Resources and Industries," 1885, p. 31; "Business Adminis-

tration," 1909, xii., p. 93; "The Making of America," 1909, x., p. 93; M. Anagnos, Memorial Volume, 1907; Two Addresses of M. Anagnos, "Education of the Blind in the United States," 1907, p. 17; W. B. Wait, "Effort and Progress," 1908; F. J. Campbell, "Life's Teachings" (read before World's Congress Auxiliary of World's Columbian Exposition, Chicago), 1893; F. Ryerson, "Report on Institutions for the Deaf and the Blind of Europe and in the United States" (Toronto), 1868, p. 31; J. F. Bledsoe, "Education of the Deaf and the Blind," an address, June 1, 1905; E. T. Towne, "Social Problems," 1916, p. 161; G. G. Smith, "Social Pathology," 1911, p. 233; *Wideawake*, viii., 1879, p. 161; xvii., 1883, p. 276; *Lend a Hand*, vii., 1891, p. 231; *Windsor Magazine* (England), vi., 1897, p. 716; *School News and Practical Educator*, xi., 1898, p. 258; *Journal of Education*, lxxxi., 1915, p. 93; *New England Magazine*, xv. (n. s.), 1897, p. 673; xlix., 1913, p. 172; *New York State Journal of Medicine*, xii., 1912, p. 279; *Archives of Ophthalmology*, xliv., 1915, p. 438; *Journal of Sociologic Medicine*, xviii., 1917, p. 191; *Ophthalmology*, ix., 1913, p. 514; *Circle Magazine*, iii., 1908, p. 148; *Charities Review*, i., 1892, p. 263; *Survey*, xxvi., 1911, p. 286; xxxii., 1914, p. 7; *Wisconsin Times* (Wisconsin School for the Deaf), March 3, 1906; *Mt. Airy World* (Pennsylvania Institution for the Deaf), Nov. 9, 1905; W. C. Posey, "Hygiene of the Eye," 1918, p. 283; Proceedings of Missouri Conference of Charities and Corrections, 1909, p. 16; Perkins Institution, "The Index," 1905; Ohio State School for the Blind, "Its Work and Its Aims," 1907, Ohio School, "Life Indoors and Outdoors," 1912; Ohio School, "Forward Steps for the Blind," 1916; Western Pennsylvania Institution, 25th Anniversary Celebration, 1915; Report of Indiana School, 1916, p. 55; Pennsylvania Institution, 1912, p. 11; 1914, p. 100; 1916, p. 103; Proceedings of American Association of Instructors of the Blind, 1912, p. 34; 1916, p. 8; 1918, pp. 5, 14, 21, 61; and *passim; Cincinnati Globe*, May 11, 1917; American Encyclopedia of Ophthalmology, 1916, ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916; *Outlook for the Blind*, ii., 1908, p. 134; xii., 1918, pp. 16, 43, 54.

CHAPTER XXIII

COST TO THE STATE FOR THE EDUCATION OF THE BLIND

Value of Property Used for Education

The various provisions for the education of the blind have now been examined. There is to be considered but one matter further. This is the cost to the state for the instruction which it provides. According to the statistics for 1915–1916, the plants of the institutions are valued at $10,884,281.[1] In all the institutions in this year there were 4,660 pupils; and we may thus calculate that there is property worth $2,336 for each pupil. By adding the value of the property used in the day schools, the total amount is probably increased to over $11,000,000.[2] This sum may be said to represent the amount invested in establishments for the education of the blind in the United States.

For new buildings, repairs, and general lasting improvements, or for the general upkeep of the property of the institutions, there is usually expended from year to year a sum between a quarter and a half million dollars.

Cost of Maintenance of the Schools

For the maintenance of the schools in the year 1915–1916 there was expended $1,913,775. The annual cost of the

[1] The figures in this chapter are taken for the most part from the Report of the United States Commissioner of Education for the year 1917, supplemented in a few cases by figures from preceding Reports. In institutions where there are departments for both the blind and the deaf, the proportionate part for the blind of the entire plant is considered. The value of scientific apparatus, furniture, etc., is given in the Report of the Commissioner of Education for 1917 as $916,426. It may be noted that the value of property of institutions for the deaf is $17,613,779, with $1,450 as the amount for each pupil.

[2] Day schools, as we have seen, do not have separate plants, but are given rooms in regular school buildings.

pupils in the day schools is probably at least $100,000. Total expenditures thus amount to a little over $2,000,000, which represents the annual cost of the education of the blind in the United States.[1]

Form of Public Appropriations

All the means for the support of the schools comes directly from the public treasury, except in the case of a few institutions which receive additional aid from endowment funds and occasional donations.[2] The maintenance of the institutions is undertaken by the legislatures of the different States, while that of day schools is provided for by local bodies, in some cases with aid from State funds.[3] Charges for clothing and transportation for indigent pupils are most often, as we have before noted, paid by the county of their residence, though these are also assumed by some States.[4]

[1] This cost is really somewhat greater, because of a certain number of very young blind children educated in special homes or nurseries. The total cost of the deaf in institutions is $3,379,356, and in all the schools for them perhaps $4,000,000.

[2] These endowment funds are found only in certain of the semi-public institutions and in a few of the schools which have received land from the Federal or State Government. In the Report of the Commissioner of Education the amount of productive funds in 1915-1916 is given in ten States as follows: Massachusetts, $2,159,059; Connecticut, $21,297; New York, $433,650; Pennsylvania, $772,822; Texas, $126,500; Colorado, $5,000; North Dakota, $300,000; South Dakota, $250,000; Utah, $50,000; California, $20,911; Montana, $100,000. The proceeds from lands given by States are usually used to supplement appropriations.

[3] In the District of Columbia one-half of the cost is borne by the United States Treasury and one-half by the revenues of the District. In Delaware the cost is distributed among the several counties.

[4] Often a given sum, usually $30, and now and then $40, is allowed for clothing; or else the actual cost thereof is collected from the county. This is done through the proper fiscal officer of the county, there being also usually some judicial procedure, as due certification on the part of a county judge, judge of probate, or similar official, whereupon the school is reimbursed for its expenditures. Such procedure is especially common in the South and West. In a few States, as New Jersey and Vermont, the town or township, where this is the political division, plays a similar part. The charges are paid at least to some extent by the State in Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Louisiana, Texas, Nevada, New Mexico, and perhaps other States. In Florida clothing is thus paid for. In Maryland such expenses may be paid by the State, county, or city. In New York they may be paid for certain pupils by the city of New York. See Report of New York State Board of Charities, 1912, i., p. 46; 1913, i., pp. 36, 247; 1916, iii., p. 631. On the extent of the liability of counties for payment for clothing and transportation,

The legislatures usually make appropriations for the support of the schools in lump sums.[1] In the case of the semi-public institutions a *per capita* subsidy is allowed, this being from less than $300 to $400 a year.[2] For a few State schools appropriations are also based upon the number of pupils in attendance. In Alabama $230 a year is granted for each pupil, in Kentucky $140 a year, in Tennessee $200 a year, and in Iowa $35 a quarter—in the last three States there being additional annual subventions in lump forms. In States where pupils are sent to outside schools there is allowed for each pupil a sum of from $200 to $400. In the State of Colorado there is a special tax of one-fifth mill levied for the benefit of the school.[3]

Cost to the State for Support of Each Pupil

The average cost for the support of blind pupils in the institutions in 1915–1916 was $411.[4] The greatest cost is usually found in the East, and the lowest in the South and West. The cost in the day schools ranges from $160 to $250, averaging perhaps $200. The average cost for the

though not directly concerning the blind as such, see *Auditor General v. Supervisors*, 54 Mich., 536, 42 N. W., 143 (1889); *Morris v. State*, 96 Ind., 597 (1884). A county may not expect to be reimbursed for any payment in respect to a pupil in an institution for the deaf. *Matter of Lansing*, 89 Misc., 312, 153 N. Y. Supp., 639 (1915). See also Report of New York State Board of Charities, 1916, i., p. 204. A county starting a pupil under twelve years, as legally required, is not relieved by the removal of the parents to another county. *Western New York Institution for Deaf Mutes v. County of Yates*, 94 App. D., 1, 87 N. Y. Supp., 534 (1904).

[1] It happens sometimes that legislatures are inclined to reduce the appropriations for the schools to the lowest possible sums, and that their heads receive commendation for their efforts to cut down expenditures. There is danger, however, that such a policy may be carried to an extent where efficiency is sacrificed to seeming economy. On the question of cost, see Ohio Bulletin of Charities and Correction, xiii., 1907, 4, Nov., p. 17; Bulletin of Iowa Institutions, ix., 1907, p. 168.

[2] The appropriations of the State of Massachusetts for the Perkins Institution were until 1874 on a *per capita* basis, but since that date they have been in a lump sum, the amount of which has not changed.

[3] Other educational institutions are included in the tax. On the validity of this tax, see *In re House Bill no. 168*, 21 Col., 46, 39 Pac., 1096 (1895); *People v. Scott*, 9 Col., 422, 12 Pac., 608 (1886); *State Institutions*, 9 Col., 626, 21 Pac., 472 (1886). See also Report of Colorado School, 1896, p. 22.

[4] In 1911–1912 this cost was $360. The average cost for the support of pupils in institutions for the deaf is $310.

education of pupils in the public elementary schools of the country is about $30. Thus it costs the state thirteen times as much to educate its blind children in institutions, and seven times as much in day schools, as it does to educate its seeing children in their regular schools.

The education of blind children, then, is not an inexpensive undertaking on the part of the state. Because of the special arrangements necessary for its accomplishment, it comes high, in comparison with education in general. But in this instruction the blind receive only their due, while to the state there are rendered both financial returns and returns of still greater moment.

CHAPTER XXIV

PUBLIC DONATIONS OF LAND TO SCHOOLS

Grants by the National Government

To the schools for the blind in some of the States there have been made donations of land as a further aid to them. Such have been given either as investments the proceeds of which should be used for the benefit of the schools, or as sites for the erection of buildings to be employed for their immediate purposes. These grants have come from three public sources, namely, the National Government, the State Government, and the city or town in which the school has been located—the last often including gifts from individuals interested in the work.

Of all the donations the most important have been those from the National Government, which have been in the form of grants by Congress of tracts of the public domain for the benefit of certain of the schools in States of the West on their admission into the Union. Seven States have been the beneficiaries of this action.[1] In 1889 on the admission of Montana, North Dakota, and South Dakota, land was set aside for several public institutions, including the schools for the blind and the deaf.[2] In North Dakota the number of acres allowed for the school for the blind was 30,000; in South Dakota, 25,000; and in Montana, 50,000. Likewise when Wyoming was admitted in 1890, 30,000 acres were granted for a school for the blind and the deaf, though one

[1] In general with respect to land given by Congress it is provided that none of it shall be sold for less than $10 an acre.

[2] Stat., 1889, ch. 180. Similar grants were made for the reform schools, agricultural colleges, and universities. The State of Washington was admitted by the same Act as were the three States named, being given 200,000 acres for "charitable, penal, and reformatory institutions." The schools for the blind and the deaf, however, which were not expressly mentioned, seem not to have shared in the grant.

has not yet as been established.[1] On the admission of Utah in 1896, 100,000 acres were granted for the school for the blind alone.[2] Finally, on the admission of Arizona and New Mexico in 1910, 100,000 acres were given for the benefit of a school for the blind and the deaf in each of these States.[3]

Grants by States

In three States, considerable areas of land have been granted by the legislature of the State for the benefit of its school for the blind at the time of its opening. In Texas 100,000 acres were set apart for each of a number of public institutions, among which was included the school for the blind.[4] In Minnesota 100,000 acres of the State's swamp lands were bestowed upon its then joint school for the deaf and the blind.[5] In Michigan 16,000 acres of salt spring lands were given.[6]

Grants by Cities or Citizens

Grants of land by cities or citizens have been small in size, and have been made primarily as an inducement to secure the location of a school.[7] They have usually been

[1] Stat., 1890, ch. 664. When Idaho was admitted the same year (Stat., ch. 656), 150,000 acres were donated for charitable, educational, penal, and reformatory institutions, the school for the blind and the deaf not being directly mentioned.

[2] Stat., 1894, ch. 138. Similar amounts were allowed for institutions for the deaf and other classes.

[3] Stat., 1910, ch. 310. In the Act of the same year admitting Oklahoma, though no mention is made of schools for the blind and the deaf among the institutions upon which land is bestowed, these seem to have shared in the grant, having land said to be worth $350,000. See *American Annals of the Deaf*, lvi., 1911, p. 206.

[4] On this land, see Report of Texas School, 1873, p. 15. The proceeds of this land amount to $174,185.

[5] One-half of the land given by the State went to the common school fund, and one-half to educational and charitable institutions, the school for the blind being included among the latter.

[6] The school in Arkansas was granted 700 acres by the State soon after its beginning. In Mississippi funds were received from the sale of public lands. In South Carolina, by constitutional amendment, the school for the blind and the deaf is entitled to a proportionate part of the scholarships created from the land grants by the National Government.

[7] Land for the use of schools for the blind and the deaf may be acquired by right of eminent domain. *Hornaday v. State*, 63 Kan., 499, 65 Pac., 656 (1901).

small tracts offered by the cities directly, or more often by a body of citizens, and sometimes accompanied by a cash payment as a further consideration. These donations have come to perhaps a score of schools. Few have been large, most being of some five or ten acres.[1]

[1] Land of perhaps five or ten acres or less has been given to the schools in California, Kansas, Louisiana, Massachusetts, Missouri, North Carolina, Ohio, Pennsylvania (Western), Tennessee, and Wisconsin. Somewhat larger tracts have been given to the schools in Colorado, Florida, South Dakota, and West Virginia. To the schools in Idaho, New Mexico, and South Dakota each 20 acres have been given; to the school in Oklahoma, 25; to the New York State School, 50; to the school in Texas, 74; to the school for the deaf and the blind in Washington, 100; to the school for the colored blind and other classes in Oklahoma, 100; and to the school for the blind, together with that for the deaf, in Ohio, 180. Buildings for school purposes have been provided in South Dakota and West Virginia. In New Jersey 160 acres of land were offered for the location of a school. For the use of the New York State School a building was at first offered.

CHAPTER XXV

PRIVATE BENEFACTIONS FOR SCHOOLS FOR THE BLIND

In our final chapter on the provision for the schools for the blind in the United States, we may consider to what extent they have been assisted from sources apart from public, that is, from private sources. We have seen that certain schools in the East—those that we have called "semi-public institutions"—had their origin in the concern of private societies, and that they were supported entirely by private funds till the state realized its duty and commenced to extend its aid, though in no instance was the dependence upon private means alone of long duration. We have also seen that in a number of States the schools were started as private affairs, in a brief time, usually, to be taken over by the state, and thus received a modicum of private aid. In addition, there have been from time to time donations from private sources to one school or another. The full amounts that have come to the schools from private contributions cannot of course be known; but it may be possible to discover in some measure to what extent the schools for the blind in America have been assisted by means other than public, and in what manner the distribution has taken place.

To less than half of the schools, do we find that gifts, large or small, have come. In most of these cases the gifts have been slight, being accepted for the most part when the schools were being started, and usually ceasing soon after their establishment or after their taking over by the state. Most of the donations of any considerable size have been to schools in the East. At present in the greater number of schools private gifts are not received. To less than half a dozen practically all the semi-public institutions of

the East—are benefactions still bestowed in greater or less degree, coming as membership fees, as certain annual contributions varying in amount, or as legacies or similar donations from time to time.[1]

To about a dozen schools there seem to have been gifts of a few thousand dollars each, seldom more than ten or twelve thousand, and usually much less.[2] To eight schools there have been donations of more appreciable size, approaching fifty thousand dollars or more. Not much under this sum has been given to the schools in Colorado and Connecticut, and nearly twice as much to those in California and Maryland (the schools in Colorado and California including departments for the deaf). To four schools the amounts have been particularly large. To the Western Pennsylvania Institution at least a quarter of a million dollars seems to have been donated; to the New York Institute, nearly three-quarter of a million; to the Pennsylvania Institution, considerably over a million; and to the Perkins Institution (Massachusetts), about three and a quarter millions.[3]

The total amount of private gifts to schools for the blind in the United States would probably foot up to

[1] With respect to a gift of $3,000 made "to the trustees of the institution for the maintenance of the blind of the city of New York," it was held that, though there was no institution with such a name, the description was sufficient to entitle the New York Institute to the amount. *New York Institution for the Blind v. How's Executors*, 10 N. Y., 84 (1854). A bequest to the "New York Blind Asylum" was likewise regarded as being for this school, though shortly before the making of the will the attention of the testator was called to the organization of the Society for the Relief of the Destitute Blind, which was sometimes called an "asylum." *Wetmore v. New York Institution for the Blind*, 3 N. Y. Supp., 179 (1888). See also *President of North Carolina Institution for the Deaf, Dumb and Blind v. Norwood*, 45 N. C., 65 (1852).

[2] Schools that seem to have received such sums are those in Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Mississippi, Missouri, New York (State School), North Carolina, Ohio, Tennessee, Virginia, and Wisconsin. In Georgia and Indiana the gifts have been in considerable part for the benefit of graduates.

[3] To the Western Pennsylvania Institution there have been three gifts of over $65,000 each; to the New York Institute, one of over $100,000; to the Pennsylvania Institution, one of over $100,000, and one of almost $200,000; and to the Perkins Institution, seven of over $100,000 each, four being of over $250,000 each. In the last named school half of the donations have been for the sole use of the kindergarten department.

a sum hardly short of five and one quarter million dollars.[1]

The part played by private benefactions in the providing of the means of instruction of blind children has not, on the whole, as we see, been great. To a few schools such aid has been of very considerable moment, and to it these owe a large debt. But with the great number of schools private assistance has been negligible.[2]

Schools for the blind might well seem entitled to share to a greater degree than they now do in the benefactions which are being made on such an extensive scale to-day both to educational and to charitable institutions—though there are, as we have found, objections on most considerations to the latter classification.[3] No small field is presented here for enlarging and strengthening their resources, and of rendering thereby a very important public service.[4]

Yet the fact that the schools are not recipients to a greater extent in the conveyances of private benevolence is not a wholly regrettable one. The schools are in reality but the agencies of the state in carrying out one of its great

[1] The total amount of private benefactions for schools for the deaf is about two and one quarter million dollars, or perhaps a little more.

[2] Mention should be made of private gifts for pupils in the schools. These have been of various kinds: embossed literature, clothing, Christmas presents, prizes, etc., as well as money gifts in certain cases. Tickets to concerts and other entertainments are frequently given, with sometimes the providing of means to secure attendance. In many instances reduced transportation has been allowed on railroads to pupils going to and from the schools; and there have been a number of favors of like character. To a few deaf-blind persons individual benefactions in the form of donations, subscriptions, or legacies, have been made, sometimes for life, perhaps given to a school to hold in trust.

[3] In not a few of the schools gifts are invited. In some they are expressly permitted.

[4] That the schools are not remembered in greater degree by the benevolently inclined is probably due to several circumstances. In the first place, the schools do not loom up in the public mind in the way that colleges and other educational institutions, on the one hand, do, or as hospitals or other charitable institutions, on the other hand, do; and thus escape the attention that otherwise might be directed to them. Moreover, the needs of the blind of a material character may appear to be so great that the needs of an intellectual character may be given less consideration. Finally, it is generally expected that the schools for the blind, being as they are public institutions, or a part of the public school system, will look to the state for their support; and hence are not objects of the concern of private philanthropy. On the matter of gifts to schools, see Report of Perkins Institution, 1874, p. 35.

functions; and since it is doing no more than providing for the education of its future citizens, sightless though they are, there is an entire duty incumbent upon it to see that full educational advantages are offered to the blind as well as to all others of its population. Hence the schools for the blind should have no need to depend upon or to call upon any means for their purposes other than those of the state.[1]

[2] As we are advised with reference to one school: "Benefactions from private sources are not encouraged, since the state is as able to educate the blind as the seeing." (Illinois School.)

PART IV

INTELLECTUAL PROVISION FOR THE ADULT BLIND

CHAPTER XXVI

USE OF RAISED PRINT BY THE BLIND

Development of a System of Raised Print

In any work of an intellectual nature for the blind, whether in connection with the schools where instruction is given, or in the larger field of service in which are embraced adults as well as children, the one great desideratum is a system of tangible typography, or of raised print, the different characters of which may be recognized by the press of the fingers—to the end that blind persons may be enabled to read from the printed page after the manner of persons who are possessed of sight. Though the consideration of such a theme might well belong with the educational treatment of the young blind, and though the matter might be presented as the means of instruction employed in the schools, the subject of raised print is one that extends so far beyond this limited use that it seems best to deal with it separately, and as an introduction to the provision for the intellectual benefit of blind adults. Hence the present chapter will be devoted to an examination of the efforts to discover a system of tangible type, of the forms which have been developed in the course of time, and of the methods now availed of among the blind. In the next three chapters will be treated the application of this type in means of benefit.

Attempts to devise characters which could be understood by the blind through their sense of touch reach far back in the epoch of human progress, perhaps to the time when letters or figures were inscribed on some substance to be read by another, and certainly to the earliest period when efforts were made to give instruction to the sightless. The

first recorded attempt to find such a means was made shortly after the beginning of the sixteenth century (*ca.* 1517), when Francisco Lucas of Saragossa, Spain, contrived a set of letters carved on thin tablets of wood. This system was brought to Italy late in the same century (*ca.* 1575). It was there modified by one Rampazetto of Rome, who had letters somewhat larger incut in blocks of wood, examples of which he published. Whether in relief or in intaglio, the several characters could be determined only at great pains, and little use was made of either system beyond the learning of the alphabet. About this time also Girolamo Cardano, of Pavia, Italy, as we have seen, made suggestions in his works as to how the blind might be enabled to read and write, though nothing practicable came from his ideas.

After a century other schemes were advanced. In 1651 George Harsdörffer of Nuremberg in Germany recommended the use of tablets covered with a thin coat of wax on which letters could be made by means of a stylus. About 1676 Padre Francesco Lana Terzi, whom we have already noticed, advocated a kind of cipher code, based upon a system of dots enclosed in square or other figures, and in addition an arrangement of knots tied in strings. This code received little attention and was soon forgotten, though the conception lying beneath it was not entirely removed from that which was to prove the ultimate solution of the problem. By it Jacques Bernouilli is said to have taught a blind child at Geneva in 1711, though he also used wooden tablets in which letters were incised.

The way, however, to the desired system of raised print for the blind was to lie along a different course. This was to be in the use of metal type, which had become the basis of printing for persons with sight, and which could be more easily felt by the touch of the fingers. In 1640 Pierre Moreau, a notary of Paris, devised a system of movable raised letters cast in lead;[1] while about the same time

[1] Moreau is said to have been without money, and was for this reason prevented from fully developing his plan.

Schönberger (1601–1648) of Königsberg in Prussia employed letters made of tin. Movable letters of metal on small tablets were also tried later.[1] Most of the devices composed of metal characters failed to come into general use for the reason that they proved to be too rough to the touch, and could only with difficulty be made out. Their real value lay in the fact that they were pointing in the right direction.[2]

All the while other devices were called into use. Various ingenious experiments were tried here and there, at one time and another. Pins or needles were stuck into cushions or into specially prepared paper, in the shape of the letters of the alphabet. Ink in heavy coats, sometimes mixed with a gritty or other substance, was laid upon cards in the form of letters. Knots were tied in strings in cunning fashion to represent the alphabet.[3] Letters were cut out of paper and strung on threads to form words. Small printing presses were even set up for the use of favored blind persons.[4]

The first definite step towards the solution of the problem was taken at the school for the blind at Paris which Valentin Haüy had founded in 1784. Here it was by accident that his pupil Lesueur felt the outlines of a certain letter which had been strongly impressed upon a sheet of paper.[5] It was this discovery which was destined to be the long desired key in providing a system of raised characters such as could be perceptible to the touch of the blind. Haüy at

[1] Among the noteworthy experiments with cast metal letters were those about the middle of the eighteenth century by Le Nôtre du Puiseaux, who lived near Paris.

[2] Relief maps of no small merit for the use of the blind were prepared about 1780 by a blind man named Weissembourg, of Mannheim, Germany.

[3] Such a device is said to have been found in ancient Peru and Chile.

[4] It was largely by the aid of pins stuck in cushions that Maria Theresa von Paradis, who did so much to encourage Haüy, was instructed. A small press was prepared for her by Bergrath Kempelen of Vienna, on which she printed in ink sentences already learned by her. In his "*Lettre sur les Aveugles*" Diderot tells of a blind woman, Madamoiselle de Salignac, born in 1741, who had been taught to read from letters cut out of paper, and who in learning geography used wires to assist, with wool and silk to represent mountains.

[5] The letter was "o," and the paper was a funeral notice. It is worth recording that the year before the Philanthropic Society of Paris, under the direction of Fournier, had punches made and matrixes struck with which very large characters were cast, based in part upon the scheme of Kempelen.

once set about embossing books in his new-found print.[1] He experimented with several types, first resorting to a kind of italic, but soon abandoning this for an Illyrian or Sclavonic letter, or a kind of script, which was almost square in shape.[2] Failing to find the advantages he had expected therefrom, he finally decided upon the Roman letter. In all his systems he used both the capital letter and the small letter, giving preference toward the last to the latter. A number of books were produced by Haüy, though his letters turned out to be too large for really successful embossing. Followers of Haüy attempted to improve on his work, notably his successor in the school, Dr. Guillié, but with indifferent results.

Other countries of Europe now began to display an interest in securing a suitable system of raised print. In Stuttgart, Germany, a type was devised by Koechlin, consisting of capital Roman letters in serrated form, and made with dashes or dots. There were in fact many experiments in that country with modified Roman type in broken lines—a device which in one form or other long prevailed. In Vienna, Johann Wilhelm Klein of the institution for the blind did much embossing in the early years of the nineteenth century, even reaching a vertical cell of five points, which might be said to bear a certain resemblance to the device finally evolved. The Abbé Carton of Bruges in Belgium at a later time also experimented with dotted lines, choosing characters in part arbitrary.[3]

The scene now shifts to England in the work of developing a practicable type for the blind. In 1821 a blind man, Sir Charles Lowther of near York, began embossing in Haüy's type books for his own use, producing several in the next few years. The name in Great Britain, however, which deserves initial mention is that of James Gall of Edinburgh, his works being the first to appear in relief

[1] Haüy's work received the approval of the Academy of Sciences.

[2] The first letters tried were of wood, which slid into a frame.

[3] Mention should be made, among others, of experiments by Hassenfratz in Germany in 1783, and by Challant in France in 1820, in the use of ink.

type in the English language. In 1826 he began his experiments, which lasted over a number of years. In 1827 was issued his "First Book for Teaching the Art of Reading to the Blind," which was a kind of manual or primer, a part being in ink and a part in raised print. The characters of Gall at the beginning were without curves of any kind, there being employed only triangular or angular Roman letters of the lower case. His aim was to give sharp edges, in the belief that the extremities of the letters could be better felt by the blind. Most of the works of Gall were books from the New Testament. In 1832 was printed the Gospel of St. John, in 1837 the Epistle to the Ephesians, and later other Books.[1]

After Gall had started the movement for raised print in England, there seemed to be a veritable outpouring of devices to assist the blind. Experiments were made with various kinds of type, some valuable and some not. In 1832 the Scottish Society of Arts offered a gold medal to the person who could suggest the best alphabet for the blind. There were a score of contestants, of whom only a few put forward Roman characters.[2] The prize was won by Dr. Fry of London, who had adopted a system of Roman capitals minus their strokes. In 1834 the Book of Acts was printed in his type. In 1834 also, John Allston of Glasgow, using capitals of sharper and more wedge-like construction, printed the Gospel of St. Luke, and in 1840 the entire Bible. In 1838 Dawson Littledale of London devised a system composed of both capitals and small letters. Useful as were the types presented in England, most of them had characters too small for general use among the blind.[3]

[1] At first the letters were made of wood; toward the last a serrated form of print was tried. Gall's system was adopted by the London Society for Teaching the Blind to Read, and continued in use until a comparatively recent date.

[2] Of the twenty or more styles offered in England from 1828 to 1838, only six became generally known. Report of New York Institute, 1890, p. 22. In 1835 there was invented by two blind men of Edinburgh a string alphabet, with 7 sets of knots and spaces to represent the different letters.

[3] By one Major Beniowski of London between 1855 and 1860 it was proposed that in certain books the type be pressed very hard against the page, causing thereby an impression on the reverse side, which the blind could learn to read, though back-

In our story of the development of a system of raised print for the blind we are now brought to the American side of the Atlantic. In the same year that the Pennyslvania Institution was established, 1833, the embossing of books was undertaken. In that year was printed the Gospel of St. Mark, which was the first book in raised print to appear in the United States.[1] Both capital and small letters were tried, but the system that prevailed was of large Roman letters, very much on the order of those of Allston, but with slight curves. For a time this was called the "Philadelphia type."

At the Perkins Institution in Boston there were even more notable results. Hardly had this school commenced its operations when Dr. Howe also began to experiment with types for the blind. In 1835 he printed the Book of Acts, in 1836 the entire New Testament, and in 1843 the Old Testament.[2] His letters were of angular type, consisting entirely of lower case characters.[3] It became known as the "Boston line letter," and was also sometimes called the "American type." It was adopted by most of the schools of the country as they came into being, and for some years was the main type in use in the United States.[4]

wards. One book is said to have been so printed. By Mitford of Cheltenham in 1865 it was suggested that lines of raised print be in rows from the top of the page to the bottom, in the belief that they would thus be easier for the blind to read.

[1] See Report of Pennsylvania Institution, 1839, p. 12. See also *Poulson's American Daily Advertiser* of Philadelphia, Jan. 10, 1834. Experiments were first made with the use of pin heads. An instructor in this school, Jacob Snider by name, proved of much assistance to Dr. Friedlander in the work.

[2] There were a number of gifts received by this school expressly for the purpose of embossing books. See Report of Perkins Institution, 1835, p. 9; *Boston Daily Advertiser*, July 24, 1837; *Christian Watchman*, March 18, 1836; *Christian Advocate and Journal*, May 27, 1836; *American Annals of Education*, v., 1835, pp. 135, 188, 236. By the American Bible Society the sum of $1,000 was paid for the Scriptures. By the British and Foreign Bible Society a complete set of the Book of Psalms was ordered.

[3] There is said to have been an agreement between Dr. Howe and Dr. Friedlander, whereby the former was to employ the small letter, and the latter the capital. See Report of New York Institute, 1890, p. 23.

[4] An idea of the size of the main forms of type which have been described may be given when it is stated that in the system of Haüy 365 letters could be printed within a space of fifty square inches, in that of Gall 526, in that of Allston 891, in that of Friedlander, first 290, and later 826, and in that of Howe, first 702, and later 1,067.

In several other schools for the blind forms of raised characters were given trial. At the New York Institute a kind of phonetic system was devised in 1837.[1] At the Virginia School in 1848 a system with both capitals and small letters was employed. At the North Carolina School in 1856 the lower case system was tried.[2]

In most of the schemes so far devised, the form of raised print had alternated between capitals and small letters in the effort to discover the system best suited to the blind. The characters, furthermore, for the most part had their ceriphs, or strokes, removed from them, in order that they might more easily be recognized. They were also given sharp corners or keen edges, to increase their tangibility. Yet no matter what modifications were effected in the shape of the letters of the Roman alphabet, the characters remained most difficult to decipher, and reading by the blind was consequently slow and laborious.

With but limited success to reward all these efforts, it now seemed that an entirely new arrangement would have to be adopted. If the regular Roman letter could not be further simplified, there was left only the employment of an entirely different style of character based upon some arbitrary principle.

Among the first to act upon this realization was one J. H. Frere, of Blackheath, England, who in 1837 offered certain characters founded upon phonetic principles, or with characters based upon the elementary sounds.[3] His type could also be read by the return line method, that is, from left to right, and then back from right to left. In the same year another Englishman, T. M. Lucas, of Bristol, devised a system of a different conception. This was in the use of

[1] There was also a device with grooved pasteboard employed in this school. Neither system had any great actual use.

[2] The last important line letter system to be devised in America was that of N. B. Kneass of Philadelphia in 1867, this combining capitals and lower case letters, the "Philadelphia" and "Boston" types, and for a time neither having projections below the line.

[3] It is to be understood, however, that arbitrary characters had been more or less experimented with before this.

a kind of stenographic or shorthand alphabet, consisting of thirteen simple characters, thirteen more derived from the roots of these, and ten double characters. A number of books were printed in the type of Lucas. Neither of these forms, however, despite their novelty and despite their scientific structure, was found to afford any substantial advance upon what had gone before, and neither won any considerable acceptance.

The next step, and the last one before the true solution of the problem came into sight, was a combination of the plan of the arbitrary selection of characters and of the use of the Roman line letter. Such was the basis of the system invented in 1847 by Dr. Robert Moon, of Brighton, England, himself a blind man. He employed for his characters a modified form of the capital letters, some being the bare outlines of them, and others almost purely arbitrary.[1] All, however, were large and plain, representing the simplest geometrical forms.[2] In the arrangement the reading is from left to right, and then back from right to left, with a raised guide from one line to the proper place in the line below. Though the new system seemed, on theoretical grounds, to be a retrograde movement, it turned out to be much the most successful device so far discovered to enable the blind to read; and though having eventually to stand aside, so far as a generally practicable scheme was concerned, for a different one, it proved to be a very great boon to them. The Moon system, as it was called, soon became very popular, and its use has in large degree continued to the present day. While now rarely employed in the schools, it is widely availed of by persons who have become blind in adult life and who are beginning to acquire a knowledge of raised print, being for such, with their fingers more or less calloused, much the easiest system to learn. Yet notwithstanding the really great improvement offered in

[1] Of the letters, 9 are practically unchanged, 13 simplified, and 4 altogether new. The Moon type is adapted to various languages. In certain respects it may be regarded as an extension of the system of Gall.

[2] The space required for this type is eight times that for ordinary ink print.

this form of tactile print, and notwithstanding the distinct service rendered to the blind by it, there remained many of the difficulties in the making out of the different characters that had been experienced in connection with other systems. Furthermore, there was no way by which it could be used for the purposes of writing. In consequence, reading by the blind continued slow and tedious, while writing by them was next to impossible.

Characters in line print of every conceivable description, impressed upon paper, whether modelled after those used by persons with sight, or made of arbitrary design but with the type composed of more or less continuous lines, had now been tried in the effort to secure a system that would fully answer the wants of the blind. In none was satisfaction to be found. If the goal were ever to be attained, the quest would have to be by an entirely different way. Only one other course was to be availed of. This was through the abandonment altogether of a system of raised letters composed of lines, and the substitution for it of a system of dots which could far more readily be recognized under the pressure of the fingers. Such a system would also be capable of being written by the blind, a very great advantage.

It was reserved for a citizen of Paris, France, in which had been made so many notable achievements for the benefit of the blind, to lead the way towards the right solution. Between the years 1819 and 1825 one Charles Barbier invented a system of cells containing two vertical rows of six points each, certain combinations of which could, on phonetic principles, be made to represent the several letters of the alphabet.[1] In certain respects, however, his contribution was wanting. The size of the cell, being a fixed one, with large parts blank for some of the letters, occasioned a considerable waste of space. A more important defect lay in the fact that, because of the complicated structure, there was difficulty in determining the exact

[1] There were also included the various sounds of the French language.

meaning of each character. For these reasons the scheme did not prove a workable one, but it held the rudiments of the correct system, and needed only to be modified to be rendered available for general use.

The required improvement was close at hand. An instructor in the Paris school, Louis Braille by name, himself blind, was able shortly afterwards to put forth a much better system. This he did by cutting the number of vertical dots in two, thus leaving only three to a column, and by substituting for the phonetic arrangement, an orthographic structure. In this plan the simplest and most obvious constructions were given to the first ten letters of the alphabet, with the remaining characters based upon these. In all, sixty-three characters were possible from the six points. Braille performed his task in 1829, though improvements were subsequently added, the system being put in its present form in 1834. The name of the inventor is probably to be perpetuated in the narrative of tactile print for the blind.

Perfected as was now the new type, it did not, however, come into immediate favor. It won only slight use in France, and a score of years elapsed before it was adopted at the Paris school. Later it spread to most of the countries of the Continent, where in time it achieved practically universal acceptance. In 1868 it gained access to Great Britain,[1] where after some years it displaced all competitors.[2] The Braille system also became known in the United

[1] In the English language, the several characters employed in the French for letters with diacritical marks are given over to "contractions," or a single character for a combination of two or more letters.

[2] In 1847 at Ramsgate, England, a system was proposed by G. A. Hughes, having one large dot and one small dot, the different relative positions of one to the other representing the letters of the alphabet. Towards the close of the century experiments were made with a cell and characters four points high and two points wide, by Arthur Bull and his three blind daughters, of Cambridgeshire; but this was considered impracticable for very much the same reason as was the original system of Barbier. At the Liverpool school in 1900 an arrangement twice the size of the Braille was employed to pave the way for the latter. In 1903 a modified form of Braille known as "London Point," was devised by J. Knowles, having three vertical rows, a variable horizontal extension, and the principle of frequency of recurrence, but it proved a complicated system.

States, probably not many years after its inception; and in 1860 it was introduced into one school, that in Missouri.[1]

In following the course of the development of raised print for the blind, we are once more brought back to the United States. It was believed in this country that further improvements could be made upon the system produced in Europe.[2] In 1868 there was invented by William B. Wait of the New York Institute what came to be called the New York Point.[3] Instead of being upright in structure, like the French model, this system is mainly horizontal, and is known as the two-level, variable base system; that is, it is two points high and one or more points long. In its orthographic composition, the number and the position of

[1] See Report of Missouri School, 1860; 1862, p. 7; Report of New York Institute, 1890, p. 30. The Braille system is said to have been adopted because of the presence at the time of a person of French extraction on the board of trustees. As the letter "w" is wanting in the French, or original, Braille, there were added proper dots for this and the remaining letters of the alphabet, in accordance with the principles of the system. In England an entirely new character was provided for the letter "w."

[2] It is interesting to note that at one time there was objection raised to point systems on the ground that they served to accentuate the difference between blind and seeing persons, compelling the former to use what could not be understood by the latter. See Proceedings of American Association of Instructors of the Blind, 1871, p. 48.

[3] Some controversy has arisen as to the actual founder of this system. It has been claimed that it was Dr. John D. Russ, the first principal of the school, and not Mr. Wait himself, who originated it, the latter but adapting it from the former. There had been more or less experimentation here from the beginning in forms of type; and it is established that Dr. Russ was familiar with the French Braille, that the principle of frequency of recurrence had suggested itself to him, and that he had made trials, especially in the late 50's and the early 60's, with a system of points based to a greater or less extent on the Braille plan. In the Report of the New York Institute for 1866 (p. 44) it is stated that "an alphabet of this kind has been used in the institution for many years." See also Report, 1857, p. 12. In the census report for 1860 (Population of the United States in 1860, from 8th census, 1864, p. 691) reference is made to the invention of "two new dot alphabets, one of 2, and the other of 3 lines," and to "letters according to the comparative frequency of use." The invention of Mr. Wait, however, seems to have been reached without relation to Dr. Russ's efforts. Mr. Wait himself declares that he contrived his system "wholly independently of Dr. Russ," and that he did not have information as to the procedure of the latter. "Origin of New York Institution for the Blind" ("Origin and Development of the New York System"), 1891, p. 10. On this matter, see also Proceedings of American Association of Instructors of the Blind, 1892, p. 62; In Memoriam, John Dennison Russ, 1881, p. 19; Report of Michigan Employment Institution for the Blind, 1908, p. 43; Report of S. P. Ruggles to Committee of American Association of Instructors of the Blind, 1872; W. H. Illingworth, "History of the Education of the Blind," 1910, p. 58 (England); *Century Magazine*, lxxviii., 1909, p. 306; American Encyclopedia of Ophthalmology, 1916, ii., p. 266.

the dots to represent the different letters of the alphabet are chosen upon the principle of frequency of recurrence, the fewest number of them standing for the most commonly used letters.[1] This system was not long in gaining favor in the United States, and before many years it had been adopted in most of the schools for the blind.[2]

In 1878 a second American point system came into being, modelled more closely after the Braille in use in England, and designated as modified Braille. It was the invention of an instructor in the Perkins Institution named Joel W. Smith. Like its prototype, it is vertical in structure, with the six-dot cell; but like the New York Point, it makes use of the principle of frequency of recurrence for the selection of its letters. In 1892 this system, after certain changes,[3] was given the name of American Braille. It has also won its way into a number of schools, and now almost equally with New York Point divides the field of raised print in the United States.[4]

At this stage, however, instead of arriving at the end of our quest for the desired system, we are confronted with a most unfortunate situation. Instead of finding one single point system in use by the blind in America, we discover that there are two.[5] The task now becomes that of consolidating or resolving the two types into one, or if this is not possible, the adoption of a third in their stead.

[1] Another important departure from the Braille system is in the spacing arrangements. In the Braille the space between words is always the width of a cell; in New York Point it is an interval of two dots. In the former there is a gain in uniformity, and in the latter in the saving of space.

[2] The New York Point system was presented at the meeting of the American Association of Instructors of the Blind in 1871. In 1882 it was voted by this body that one-half of the output of the American Printing House for the Blind should be printed in it, the remaining one-half being in line print; and in 1892, that three-fourths should be printed in New York Point.

[3] These were mainly the introduction of a prefix to indicate capitals, and modifications in punctuation marks and contractions.

[4] In 1910 American Braille was allowed to share in the output from the American Printing House.

[5] The two American systems are very far apart. They differ not only in height and length of cell, and in the number and position of the points for the same letter, but also in figures, in characters for musical notation, and in signs for capitalization and punctuation. Readers of one system may be in complete ignorance of the

Happily, the matter has not been allowed to remain at rest. The blind and their friends and instructors have determined to remedy the situation, and their efforts are now all but crowned with success. In 1900 a Tactile Print Investigating Committee was appointed by an organization of blind persons known as the American Blind People's Higher Education and General Improvement Association. In 1905, on the expansion of this body into the American Association of Workers for the Blind, including both the blind and the seeing, the committee was taken over and its scope enlarged. It was called the Uniform Type Committee, and to it was assigned the task of comparing the merits and the demerits of the several existing systems, and of considering the possibilities of a new one. Tests have been made of every conceivable kind in the use of point types: tests of ease, of speed, of accuracy, and of other particulars, both in reading and in writing.[1]

In 1913 a report was made, recommending as the best solution the adoption of a system to be known as the "Standard Dot System," which in large part constituted a return to the original Braille form, supplemented and modified by features from both the existing American systems. The new system took for its basis the alphabet and figures of British Braille. For capitalization and marks of punctuation it borrowed from the American Braille. From the New York Point it adopted, besides its

meaning of the other, while an acquaintance with both, unless thorough may lead to more or less confusion in the reading of either. Some books are printed in one type, and others in the other, with, on the one hand, the consequent restriction in the number of books in each, and, on the other hand, the duplication of certain reading matter. If books or periodicals are to have a wide circle of readers, they must be printed in both types. In addition, the Braille type as used in Europe has been but little known in America, and publications in it have had practically no circulation here. It is to be stated, however that by many of the blind both of the American types are understood, and that application for a short time will make a person versed in one acquainted with the other.

[1] The committee included in its membership of ten persons representatives of or sympathizers with both the American systems. Visits were made to all parts of the country, and to England as well; and tests were made on more than a thousand blind persons. Several thousand dollars were contributed for the work of the committee, not a little coming from the blind themselves.

spacing arrangement, the variable base plan, though it assigned characters with a base of more than two characters to secondary positions, their purpose being to take the place of the compound or two-cell contractions in the British Braille. The entire system was thus three points high and two or more long; or a three-level, variable base system.[1]

The report presented in 1913 was not acted upon immediately; but, in the conviction that in whatever conclusions were reached there should be as complete harmony as possible, and in the hope that only the best and most satisfactory method would in the end be decided upon, and in order to make sure of the general if not universal adoption of the suggestions to be offered, the committee was directed to continue its investigations and to report anew. In 1915 when the Standard Dot System was completed, the final report of the committee was submitted. This time it was unanimously adopted, and the committee was discharged.[2]

For the advancement of measures for the general acceptance of the new system, a Commission on a Uniform Type was created, consisting of three members, which

[1] In this system only two-thirds of the number of characters required by the British Braille were required, though a few more than in either American Braille or New York Point. Less space was taken than in the Braille arrangements, but more than in the New York Point, though less finger travel was actually required than in the latter. While thus introducing some of the elements of the existing point types, the system was not to be regarded merely as a compromise. Special characters were provided for musical and mathematical notation. In the whole arrangement certain fundamental principles were followed, based upon the extent of finger travel, the legibility of characters, the line lengths, the powers of suggestiveness, and other particulars. In the assignment of characters other than letters and figures, the principle of frequency of recurrence was applied. By the employment of the variable base plan, a greater number of characters was obtained than in the original Braille, thus avoiding the use of certain equivocal characters for contractions. It was believed by some that, aside from other advantages, the Standard Dot System possessed greater legibility, including speed and accuracy, than any type system before offered to the blind.

[2] Several small works have been undertaken in the Standard Dot System, including a primer entitled "Standard Dot Drill Key," in British Braille, American Braille, and New York Point. It may be noted that the apparatus of the Standard Dot System may be used for either American Braille or New York Point, though the converse is not the case.

was endorsed by the American Association of Instructors of the Blind. In order that it might have the backing of the entire English-speaking world of the blind, the main efforts of the commission were put forth towards the enlistment of the support of the blind and of the workers for the blind of Great Britain. The movements on the American side of the Atlantic had been watched with keen interest by the English, who had shown a readiness to lend a helping hand. It was felt by them, however, that, as their system was the one in use over a large part of the civilized world outside of the United States, and as it contained a great published literature, it might be of doubtful expediency, with perhaps little compensating gain, to give this over altogether.[1] At the same time a willingness was expressed for a conference of representatives of the two countries, with perhaps the appointment of a permanent international committee to consider the problem further. It was recognized that, despite the superiority of the British type, from the tests made, to either of the American types, there was still much room for improvement in it.[2] To deal with the matter, there was created in England a National Uniform Type Committee.

In these circumstances, the American workers, though still of the belief that the Standard Dot System was on scientific grounds preferable to any existing type for the blind, were also persuaded that its adoption by the United States alone would virtually mean the introduction of but another variety into the already confusing forms of tactile

[1] Over a score of countries follow the European form of Braille.

[2] The chief matters in respect to which it is believed that a change may be effected for the better are the application of the principle of frequency of recurrence; the introduction of a proper system of capitalization; the improvement of the present system of punctuation; the reduction or abolition of many of the contractions, or word-signs, which are peculiarly difficult for the young; the doing away with certain rules and exceptions, which add to the burden upon the memory; an increased saving of space; and the greater conformation to regular printing usage. It may be added that in Great Britain many of the proposed changes are not regarded as feasible or advisable. It is believed there that capitalization should be left optional, that the present system of punctuation is fairly satisfactory, and that the difficulties in the use of word-signs are exaggerated.

print. Accordingly, instead of pressing further the case for it, they decided to give it up altogether, and to accept the British system, or the original Braille as adapted for English use, but with the incorporation thereinto of certain changes, under the name of "Revised Braille," [1] the hope being also entertained that those on the other side of the ocean would see their way at least to some extent to join forces.

This decision was made by the American Association of Instructors of the Blind in 1916, after recommendation by the Uniform Type Commission, and in 1917 by the American Association of Workers for the Blind. In 1918 renewed approval was given by the former organization. Under the auspices of these two bodies, and with the sanction of practically all organizations for the blind in the country, the Uniform Type Commission is continued, at present having twelve members, both to secure further harmony, with also the avoidance as far as possible of duplication in published literature, and to act as an authority upon such disputed points as may arise. With the new system a beginning is already being made, and plans are now under way for the gradual conversion to it of all American point print.[2]

These steps may be regarded as the practical determination of the matter of raised print in the United States, and as the definitive committing of the country to the new order. Whatever further minor adjustments may be found necessary, the quest of the blind for a serviceable and for a uniform type, so far as we can see, comes now to an end.

[1] The system is to be known as "Grade One and a Half." It may be in full spelling and without contractions, as in the case of Grade One used in England, or with a considerable number of contractions, as in the case of Grade Two there used. The contractions consist of single characters or abbreviations for words (and in a few instances for syllables or combinations of letters). The bulk of the literature for the blind in England is in Grade Two. In that country there is also a Grade Three, highly contracted, and but little employed. The American system is supplied with full capitalization; and differs slightly in certain other immaterial particulars from the English system.

[2] Changes are to be brought about slowly, so as to cause as little inconvenience as possible to the readers of existing systems. In schools the new type is to be introduced grade by grade. In it certain primers and first readers, as well as a few other books, have been prepared. New plates are to be generally in the new type.

Means Employed by the Blind in Writing and in Other Notation

Not only has a special type been created by which the blind can do their reading, but with the introduction of point systems there has been provided a means to enable them to write these types, this being one of the things which gives them their great advantage over the line types.[1] Writing is now made possible by the use of a special writing frame, which consists of two metal blades of equal size hinged together at one end, usually not more than one foot in length. One of these has cut into it two or more rows of cells of the required point space, while the other consists of a grooved bed, or a base with writing "pits" drilled into it, one blade fitting over the other. Between these blades the paper is inserted, the one with the cell openings being placed above, and into it are impressed, with the aid of a small pointed stylus, dots in the desired number and position. The impressions are made from right to left, so that the protuberances will appear on the reverse side in the accustomed order, or from left to right.[2] There are writing machines also for the several point systems, some of which are adapted to stenographic work.[3]

For ciphering work, a rectangular frame or slate of steel or wood is employed, into the surface of which octagonal, or sometimes square, holes are cut out at regular intervals. Into these are inserted square metal pins or plugs each with a slight projection at either end, one usually a kind of ridge and the other two points. By the various arrangements possible are denoted the different numerals.[4] In all the

[1] Instruction to a certain extent is also given in some of the schools in the regular long hand form of writing used by seeing persons, especially by means of pencil. While by some pupils commendable progress is made at this, with most the process is tedious and laborious. An increasing number of the blind are being taught to use the typewriter.

[2] This writing frame seems to have been invented by one Guldberg, though constant improvements are being added.

[3] There is also a machine for the Moon system, though of little practical value.

[4] The first mathematical system for the blind was invented in 1720 by Nicholas

point systems, it is to be noted, the dots may be so disposed as to indicate the numerals and certain of the other mathematical figures. For musical notation the point systems have likewise been found adaptable. In the teaching of geography relief maps are employed to a considerable degree.[1] In these various ways is point print of service.[2]

Systems of Raised Print in Present Use and General Reading Ability of the Blind

From what we have now seen, the systems of raised print which may be said to be in use in the United States, are five in number. They are the New York Point, the American Braille, the European, or British, Braille, the Line type, or raised Roman letter, and the Moon type—the first three being punctographic in structure, and the last two of continuous impression. The most important, as we have found, are the New York Point and the American Braille, which, dividing the schools almost equally between them, have been the chief means employed for the education of blind children. They are also in very large measure availed of by the graduates and former pupils of the schools in after life, the New York Point, as the older type, having the more numerous adherents. The English Braille, containing the original Braille alphabet, is employed only in limited areas of the United States, mainly among persons who have come from Europe, though it is now, as we have found, on the point of general adoption, possibly with certain modifications, as the standard type. The two line systems, that is, the raised letter type and the Moon type, in large part superseded by the dot

Saunderson, the blind professor at Cambridge, England. In this the holes and plugs were both square. The present plan is the invention of William Taylor, of York, England, in 1836, he also having prepared certain geometrical designs several years earlier. Systems with pentagonal holes and pentagonal type have also had use.

[1] The first of the kind of which we know was that of Weissembourg, of Mannheim, Germany, to whose work reference has been made.

[2] It may be added that many games have been adapted for use by the blind. See American Encyclopedia of Ophthalmology, 1916, ii., p. 1116; *Popular Mechanics*, xxvi., 1916, p. 11; *Literary Digest*, lv., 1917, p. 25; *Nation*, xlvi., 1888, p. 113.

systems to which the world of raised print is being increasingly given over, still have a far from negligible place in American scotoic reading. They retain a hold chiefly for the reason, already indicated, that they are the least difficult to be learned by persons beyond the school age and who have been accustomed to the regular Roman alphabet, and consequently appeal with peculiar force to those who take up raised print in the years of adult life. This is particularly true of the Moon type, which is the simplest of all the several forms of type, and the one most readily acquired by hardened fingers. Raised letter type is also offered to a certain extent in some of the schools for the blind alongside one of the dot systems, it representing the form known to people with sight.[1]

We may now turn to statistics, and seek to discover what proportion of the blind in the United States are able to read raised print. Of 28,220 blind persons five years of age or over making report as to the matter, in the special schedules in connection with the census of 1910, 6,044, or 21.4 per cent, made an affirmative statement.[2] On this situation the census report comments as follows:

> This relatively low percentage results from the fact that the great majority of the blind lose their sight when past school age; instruction for the blind losing their sight in adult life has as yet been developed to an important extent in comparatively few States, and since learning to read raised type is a more or less laborious task, especially for the adult blind, by reason of the lessened sensitiveness of their finger tips, comparatively few of those losing their sight in adult life, particularly in old age, when the expectation of life is short, have sufficient energy or initiative to attempt it.[3]

The proportions vary in different sections of the country, the percentages being 29.1 in the New England States, 27.3

[1] For illustrations of the several forms of raised print used by the blind, see Appendix A.

[2] "The Blind in the United States," 1917, pp. 133–141.

[3] *Ibid.*, p. 133. On the reading ability of the blind, see also *Lancet-Clinic*, cx., 1913, p. 487; Publications of Pennsylvania Institution for the Blind, Report of Preliminary Tests in Reading (S. P. Hayes), 1918.

in the Middle Atlantic, 20.8 in the East North Central, 21.8 in the West North Central, 19.4 in the South Atlantic, 13.5 in the East South Central, 17.2 in the West South Central, 16.0 in the Mountain, and 24.5 in the Pacific. The higher ratios in the Northeastern States are probably in large part due to the more extensive carrying on of home teaching in them, while the low ratios in the Southern States are in considerable measure to be accounted for by the numbers of Negroes found therein, comparatively few of whom have attended school, and in the Mountain States by the number of Indians.

With respect to sex, it appears that the proportion able to read raised print is slightly greater for females than for males, the percentage for the former being 23.1, and for the latter 20.3.

This higher percentage for females is probably accounted for in part by the somewhat higher proportion of females losing their sight in childhood, the fact that the proportion reporting attendance at a special institution for the blind is practically the same for the two sexes being explained by the circumstance that the males reporting such attendance comprise a considerable number who had lost sight in adult life and had received instruction at a workshop, but may not have learned to read raised type; it has already been seen that the percentage attending a special school for the blind only is higher for females than for males. It is furthermore possible that the number of illiterate males losing their sight may have been somewhat greater relatively than that of illiterate females, especially in view of the fact that a large proportion of the male blind lost their sight in industrial accidents, and the percentage of illiteracy is probably above the average among industrial wage-earners. A further factor is that the proportion who before their blindness were employed in rough manual labor, and whose fingers consequently lack to a considerable extent the sensitiveness of touch necessary in order to acquire facility in the use of raised type, is probably somewhat larger for males than for females.[1]

The proportion for native-born whites is 26.4 per cent, for foreign-born whites 11.0 per cent, and for Negroes 8.5 per

[1] "The Blind in the United States," p. 134.

cent. Among the foreign-born whites the proportion for females is slightly less than that for males, attendance at special schools for the blind being generally greater for the latter than for the former.

> The percentage reading raised type for the several race and nativity classes shows a fairly close correspondence to the percentage reporting attendance at a special school for the blind. . . . In each case the former percentage is slightly smaller, the difference being partly accounted for by the number who had received industrial training at a workshop for the blind but had not learned to read raised type, and partly by those who had been to a special school for the blind, but either had not been there long enough to acquire the ability to read raised type or having acquired it had through lack of practice or physical or mental disability lost it.[1]

According to age, much the largest proportions able to read raised print are found to be among the blind in the period of school attendance, with a gradual decrease in later years. The highest proportion is for those from fifteen to nineteen, being nearly two-thirds (65.1 per cent). The proportion is over three-fifths (61.9 per cent and 60.2 per cent, respectively) for those from ten to fourteen and for those from twenty to twenty-four, though it is only a little more than a third (36.4 per cent) for those from five to nine. After the twenty-fourth year the proportions for the several five-year periods decline from slightly more than one-half to less than one per cent, the rate of decline in each period being six or eight per cent at the beginning and one or two per cent towards the last.

According to the age of the occurrence of blindness, the proportions are also the greatest for the blind who have lost sight in the years of childhood and youth, and smallest for those who have lost it later in life, the decline among those losing it after the fifteenth year being very rapid. Of those becoming blind under the twentieth year the proportion able to read raised print is nearly three-fifths (57.1

[1] "The Blind in the United States," p. 134.

per cent), being 61.4 per cent for those becoming so under five years, 63.1 per cent for those becoming so from five to nine, 53.7 per cent for those becoming so from ten to fourteen, and 36.8 per cent for those becoming so from fifteen to nineteen. For those becoming blind when twenty years of age or over the proportion is 6.1 per cent, being 19.9 per cent for those becoming so from twenty to twenty-four, 9.9 per cent for those becoming so from twenty-five to forty-four, 4.6 per cent for those becoming so from forty-five to sixty-four, and 1.6 per cent for those becoming so when sixty-five or over. It may be noted that of the blind who had attended a special institution, 83.3 per cent can read raised print; of those who had attended other schools only, 13.7 per cent; of those who had received private instruction at home—mainly through home teaching, and possibly including some who had attended the other schools —43.4 per cent; and of those who reported no instruction, 0.5 per cent. Stated differently, it is found that of those able to read raised print, over four-fifths (83.4 per cent) had attended a special institution, less than one-eighth (11.8 per cent) had attended other schools only, 3.7 per cent had received private instruction at home, and 1.1 per cent reported no instruction.

By a considerable portion of the blind more than one kind of type can be read, by some as many as three or four, and by a few all five—this in large measure depending upon the extent of education and upon individual gifts. According to the findings of the census, of the blind able to read, a little over one-fourth (26.7 per cent) are familiar with more than one type, and a little under three-fourths (73.3 per cent) with one only. The proportion conversant with more than one type varies with the different sections of the country, the percentage in the New England States being 41.4, in the Middle Atlantic 28.1, in the East North Central 22.5, in the West North Central 19.2, in the South Atlantic 23.7, in the East South Central 29.1, in the West South Central 27.3, in the Mountain 25.8, and in the Pacific

31.3. The proportion so qualified is considerably greater for females than for males, being 31.5 per cent for the former, as against 22.8 per cent for the latter. This difference is perhaps to be accounted for by the fact that the proportion is notably greater for females among those who lose sight in early life, or at a time when attendance is possible at a special school for the blind, in which period it is more likely that plural systems would be acquired than would be the case with those learning raised print in adult life. Among nativity and race classes, the foreign-born whites show the highest proportion able to read more than one type (28.2 per cent), the native-born whites coming next (26.9 per cent), and Negroes last (20.7 per cent).

With respect to age, the proportion acquainted with two or more systems, while low in early life, increases steadily with each succeeding age group up to sixty-five, after which there is a considerable falling off. The percentage from five to nine is 5.4, from ten to fourteen 8.7, from fifteen to nineteen 18.6, from twenty to twenty-four 24.6, from twenty-five to forty-four 32.1, from forty-five to sixty-four 33.9, and sixty-five or over 20.8. With respect to the age of occurrence of blindness, the proportion for those losing sight under the twentieth year is 28.4 per cent, being for those losing it under the fifth year 29.2 per cent, for those losing it from five to nine 31.1 per cent, for those losing it from ten to fourteen 24.5 per cent, and for those losing it from fifteen to nineteen 23.7 per cent. The proportion for those losing sight at twenty years or over is 20.3 per cent, being for those losing it from twenty to twenty-four 14.2 per cent, for those losing it from twenty-five to forty-four 23.9 per cent, for those losing it from forty-five to sixty-four 19.2 per cent, and for those losing it at sixty-five or over 19.4 per cent. The higher proportions for persons becoming blind in early life are to be explained by the circumstance that such persons have had the opportunity of attending the special schools for the blind where instruction is often received in the use of two or more types. It may be noted also, as a further

illustration of this tendency, that of the blind able to read more than one type, 86.9 per cent had attended a special institution for the blind, 9.3 per cent had attended other schools only, 3.3 per cent had received private instruction in their homes, and 0.5 per cent reported no instruction. The corresponding percentages for those able to read but one type are, respectively, 82.1, 12.7, 3.8, and 1.4.

In the following table are shown the percentages of the blind using the different kinds of type, as found in the several geographical divisions of the country (the totals in each case exceeding 100 because of the number included who are able to read more than one kind).

KINDS OF RAISED PRINT USED BY THE BLIND IN THE UNITED STATES

	United States	*New England States*	*Middle Atlantic States*	*East North Central States*	*West North Central States*	*South Atlantic States*	*East South Central States*	*West South Central States*	*Mountain States*	*Pacific States*
New York Point	57.2	16.7	52.7	62.9	66.8	75.1	52.8	79.4	51.6	48.0
American Braille	28.1	60.0	24.4	30.9	28.0	5.8	27.4	10.1	42.2	37.3
English Braille	4.7	8.1	5.7	3.0	8.1	1.4	5.1	2.0	6.3	3.2
Braille (kind not reported)	6.1	11.1	8.8	3.5	3.5	3.0	11.4	3.7	7.0	6.0
Line type	23.9	35.7	18.2	22.4	14.1	30.2	31.5	32.4	14.1	24.6
Moon type	11.1	20.1	24.6	4.3	4.4	4.6	3.6	2.5	9.4	18.3
Indefinitely reported	6.4	7.3	8.2	4.8	3.1	8.7	8.2	5.2	8.6	5.2

For the country at large it appears that of the individual types the New York Point has much the largest number of readers, being understood, either alone or in conjunction with another type, by nearly three-fifths (57.2 per cent) of the blind able to use raised print. It is followed by American Braille, with nearly three-tenths (28.1 per cent). If, however, as is likely, those listed as reading a Braille system the exact kind of which is not reported are in the main readers of American Braille, then this type is to be accredited with approximately one-third. Line type, or raised Roman letter, is next, with a little under one-fourth (23.9 per cent). After this comes Moon type, which is employed by slightly more than one-tenth (11.1 per cent). Last is English

Braille, with less than one-twentieth (4.7 per cent). As regards 6.4 per cent, the kind of type used is unknown or is indefinitely reported.

If we consider the extent to which each type singly is employed (without reference to the foregoing table), we find that the relative proportions are not greatly different, the respective percentages being as follows: New York Point, 51.1; American Braille, 23.0 (Braille of a kind not specified, 3.6); Line print, 9.8; Moon type, 8.5; English Braille, 1.3; and type indefinitely reported, 5.4. If, on the other hand, we consider the use of the several types in conjunction with others, we find not only the proportions to be duly increased, especially in the case of Line type and English Braille, and in less degree of American Braille, but the order to be somewhat changed, Line type now outranking American Braille. The respective percentages are as follows: New York Point, 74.0; Line print, 62.8; American Braille, 49.5 (unspecified Braille, 13.2); Moon type, 18.2; English Braille, 14.0; and type indefinitely reported, 9.2.

On examination of the previous table, showing the use of the several types altogether, whether alone or in combination with others, in the different sections of the country, it is seen that in all, save the New England States, New York Point is well in the lead, claiming more than three-fourths of the blind acquainted with raised print in two divisions (the South Atlantic and West South Central States), and more than three-fifths in two others (the North Central divisions). In the New England States it holds only about one-sixth. In the last named States American Braille is easily predominant, having three-fifths (60.0 per cent), or with unspecified Braille, considerably over two-thirds. The proportions for American Braille and unspecified Braille together vary in other sections from about one-twelfth to nearly one-half, being greatest in the Far West and smallest in certain parts of the South. The highest percentage reached by English Braille (in the New England and the West North Central States) is 8.1,

and the lowest 1.4. Line type is employed to the greatest extent in New England, where more than one-third (35.7 per cent) of the blind able to read raised print can use it, though the several divisions of the South are not far behind (with 30.2 per cent, 31.5 per cent, and 32.4 per cent, respectively); and to the least extent in the West North Central and the Mountain States, where it is availed of by less than one-sixth. The Moon type is found most frequently in the Middle Atlantic, New England, and Pacific States, with a proportion in them of approximately one-fourth or one-fifth (24.6 per cent, 20.1 per cent, and 18.3 per cent, respectively), and least frequently in the South and Middle West, where the proportion is but a few per cent. Its extensiveness in the Northeastern part of the country is no doubt in considerable part due to the fuller development there of home teaching for adults.

Largely as a result of the fact that the proportion of female blind able to read more than one kind of raised print exceeds that of males, the proportion of the former is greater with respect to all but one of the individual types, the percentage understanding New York Point being 57.8, as against 56.8 for males; American Braille, with unspecified Braille, 35.2, as against 33.5; English Braille, 5.6, as against 4.1; and Line type 28.5, as against 20.3. In Moon type only do males show the higher percentage, 11.7, as against 10.6 for females.

New York Point is employed among Negroes to a slightly greater degree than among native-born whites, and among both of these classes to a considerably greater degree than among foreign-born whites, the respective percentages for each among those able to read raised print being 60.3, 58.0, and 48.3. The reason for the lower ratio for the foreign born is probably the circumstance that many of them become blind in adult life when recourse is more likely to be had to Moon type, and that they are chiefly concentrated in sections of the country where the Braille system prevails. American Braille, in conjunction with un-

specified Braille, is found in very nearly the same proportions among native-born and foreign-born whites, the respective percentages being 35.1 and 35.7; but only to about half this extent among Negroes, whose percentage is 17.0, this being explained by the fact that Braille is taught but little to them in the South. English, or European, Braille is naturally most extensive among the foreign-born whites. The proportion of these able to read it is 9.8 per cent, or more than twice as great as for the native-born whites, with a proportion of 4.4 per cent, and nearly six times as great as for Negroes, with a proportion of 1.7 per cent. Line type is used with little difference among native-born whites and Negroes, the respective proportions being 24.4 per cent and 25.0 per cent, but somewhat less among foreign-born whites, whose proportion is 18.3 per cent, the last named class having had less attendance at schools where this type is taught. In Moon type, on the other hand, the foreign-born whites, who take it up the more frequently in adult life, show a proportion over twice as great as that for native-born whites and for Negroes, or 22.0 per cent, as against 10.0 per cent and 9.3 per cent, respectively.

In the following table are presented the percentages of the blind reading the several kinds of type, both singly and in combination, according to age.

KINDS OF RAISED PRINT USED BY THE BLIND ACCORDING TO AGE

	5 to 9	10 to 14	15 to 19	20 to 24	25 to 44	45 to 64	65 or over
New York Point	47.0	53.6	62.4	64.3	69.3	46.6	22.1
American Braille	40.0	40.5	30.3	40.5	27.2	10.2	7.0
English Braille	0.5	0.6	0.3	3.8	5.3	8.7	4.0
Braille (kind not reported)	3.2	2.0	3.3	3.0	0.3	8.8	9.3
Line type	4.3	7.9	12.6	15.8	24.9	37.7	29.8
Moon type	0.5	0.4	0.8	3.6	7.2	19.7	44.4
Kind indefinitely reported	9.7	4.2	4.5	3.8	6.7	7.7	8.6

It is seen in the first place that New York Point and American Braille are of the greatest extent in youth and early

adult life, and the other types in later years. The foremost position is held by New York Point in every age group except the last, it showing a steady increase from less than one-half (47.0 per cent) in the group from five to nine years up to the group between twenty-five and forty-four, or through early adult life, when it has a proportion of over two-thirds (69.3 per cent). After this time it declines rapidly, having only a little more than one-fifth (22.1 per cent) in the group sixty-five years of age or over, due to the fact that very few persons losing sight in advanced life acquire a punctographic system of any kind. American Braille occupies second rank to the age of forty-four. It is employed in its greatest frequency in childhood and youth, claiming, with unspecified Braille, somewhat more than two-fifths of the readers of raised print under twenty-five years of age, though after this time a very considerable decline sets in, the proportion falling to a little more than one-sixth after the sixty-fourth year. The reason for this decrease in adult life is partly that, as with New York Point, dot systems are not often taken up then, and partly that American Braille, being a comparatively newer type, may be expected to have less of a hold among the older blind. The proportion for English Braille is less than one per cent before the twentieth year, after which time it gradually rises till it reaches its maximum of 8.7 per cent between the ages of forty-five and sixty-four, then falling considerably. Its main use in adult life is perhaps largely explained by the number of the foreign born employing it at that period. Line type starts with 4.3 per cent in the first age group, but gradually gains in youth and adult life, attaining a proportion of nearly two-fifths (37.7 per cent) between the ages of forty-five and sixty-four, which is not greatly lessened in the final age period (29.8 per cent), and occupying second place among the different kinds of raised print at both these periods. The extensive use of Line type in the later years of life is for the most part to be accounted for by the fact that it was the first type to be em-

ployed in this country, and consequently has a relatively large number of users among the older people. Moon type is read by less than one per cent of the blind acquainted with raised print under twenty years of age, but through the remainder of life it advances with rapid strides, reaching a proportion of over two-fifths (44.4 per cent) after the sixty-fourth year, which is considerably the largest proportion of any of the types at such period. As already observed, this type, because of its relative simplicity, is mainly given to the adult blind when their fingers have not sufficient sensitiveness for the acquirement of a punctographic system.

In the next table are given the percentages of the blind reading the several kinds of type, both singly and in combination, according to age of the occurrence of blindness.

KINDS OF RAISED PRINT USED BY THE BLIND ACCORDING TO AGE OF OCCURRENCE OF BLINDNESS

	Under 20	*Under 5*	*5 to 9*	*10 to 14*	*15 to 19*	*20 or over*	*20 to 24*	*25 to 44*	*45 to 64*	*65 or over*
New York Point	60.7	59.8	60.3	62.9	63.8	42.7	58.9	50.0	27.7	8.6
American Braille	30.2	31.0	29.6	28.1	29.7	20.2	24.4	24.0	13.4	9.7
English Braille	5.0	4.8	6.7	4.7	3.4	3.7	5.3	3.4	3.3	2.2
Braille (kind not reported)	5.3	5.1	6.2	4.8	5.0	9.7	4.5	10.7	11.1	12.9
Line type	28.3	30.7	31.6	22.2	10.1	6.7	10.2	0.9	5.2	1.1
Moon type	4.5	3.8	4.6	5.4	7.2	37.9	14.6	30.5	56.0	81.7
Kind indefinitely reported	6.9	7.1	7.4	6.0	5.5	4.3	2.8	4.0	5.5	5.4

The findings in this table are on the whole but confirmatory of the findings in the preceding. All types save the Moon show greater proportions of readers among those who became blind in childhood and youth than among those who became so in adult life. New York Point stands at the head both among those losing sight before the twentieth year and among those losing it after that time, though the percentage for the former is considerably higher than that for the latter (60.7, as against 42.7), and among all losing sight under the forty-fifth year. The proportion remains near three-fifths until the twenty-fourth year, or until the close

of the school period, after which time it rapidly falls, becoming only 8.6 per cent among those losing sight after the sixty-fifth year, with the relegation of this type to third place. American Braille, with unspecified Braille, has a proportion of over one-third among those becoming blind under the twentieth year, and of somewhat over one-fourth among those becoming blind after that age. There is in general but very slight decrease among those losing sight prior to the forty-fifth year, but among those losing it after such time the proportion falls to a little under one-fourth. English Braille, with a proportion of 5.0 per cent among those becoming blind under twenty, and of 3.7 per cent among those becoming so thereafter, shows, with certain variations, a gradual decrease to the end. The proportion reading Line type among those losing vision under twenty is 23.9 per cent, in contrast with 6.7 per cent for those losing it in later years, or over three times as great in the one case as in the other. The proportion is highest with those losing sight before the ninth year, or a trifle over three-tenths, and steadily declines to the last period, when it is only 1.1 per cent. The extensive use of this type among persons whose blindness was an incident of early life is in large measure due to the circumstance already referred to, namely, that, antedating the others, it has been learned by relatively larger numbers of the older blind whose affliction was occasioned at such time. The Moon type, the only one found less among those losing sight before the twentieth year than among those losing it after that age, shows a proportion for the former of 4.5 per cent and for the latter of 37.9 per cent, or less than one-eighth as great for the one as for the other. Starting with a percentage of 3.8, the proportion rises at an accelerated rate, reaching nearly three-fifths (56.0 per cent) among those becoming blind between forty-five and sixty-four, and over four-fifths (81.7 per cent) among those becoming blind after sixty-four, and giving this type first place in both these groups. The reason for this condition has been brought

out in connection with the proportions of the blind reading raised print according to age.

NOTE TO CHAPTER XXVI.—On the development of systems of raised print for the blind, in Europe and in America, see James Gall, "Historical Sketch of the Origin and Progress of Literature for the Blind," 1834 (England); James Gall, "Account of Recent Discoveries Which Have Been Made for Facilitating the Education of the Blind," 1837 (reprint, 1894) (England); Statements of the Education, Employments, and Internal Arrangements of the Asylum for the Blind (Glasgow), 1836; John Allston, "Narrative of the Progress of Printing for the Blind," 1838 (England); T. M. Lucas, "Instructions for Teaching the Blind to Read," 1837 (England); E. C. Johnson, "Tangible Typography," 1853 (England); B. G. Johns, "The Land of Silence and the Land of Darkness," 1857, pp. 97, 122, 156 (England); B. G. Johns, "Blind People, Their Works and Ways," 1867, p. 108 (England); Thomas Anderson, "Observations on the Employment, Education, and Habits of the Blind," 1837, p. 46 (England); "Touch and Learn" (by a Blind Gentleman), 1856 (England); Dr. Guillié, "Essay on the Instruction and Amusements of the Blind," 1819 (reprint and translation, 1894) (England); Thomas Bull, "The Sense Denied and Lost," 1859, p. 140 (England); W. H. Levy, "Blindness and the Blind," 1872, p. 77 (England); Robert Meldrum, "Light on Dark Paths," 1891 (England); F. A. Goodale, "The Literature of Philanthropy," 1893, p. 170; William Moon, "Light for the Blind," 1873 (England); John Rutherfurd, "William Moon and His Work for the Blind," 1898 (England); W. H. Illingworth, "History of the Education of the Blind," 1910, p. 8 (England); R. C. Moon, "An Essay on William Moon's Types for the Blind" (read before International Congress for the Blind, Chicago), 1893; R. C. Moon, "The Education of the Blind, with Especial Reference to the Use of the Moon Alphabet" (Address delivered at the World's Fair, St. Louis), 1904; J. H. McHenry, "Alphabets, or Systems of Printing, Writing, and Notation of Music Best Adapted for the Use of the Blind," 1870; Henry Robyn, "To the Trustees, Principal, and Teachers of the Blind Asylum" (Missouri), 1866; Henry Robyn, "Thorough Description of the Braille System," 1867; B. B. Bowen, "A Blind Man's Offering," 1857; Charles Baker, "Contributions to the Publications of the Society for the Diffusion of Useful Knowledge," 1842, pp. 49, 171 (England); Account of New York Institution, 1833; E. H. Fowler, "Printing and Writing for the Blind" (read before alumni association of Perkins Institution), 1899; "The Blind and Their Books" (date unknown); W. B. Wait, "The New York Point System of Tangible Writing and Printing for the Blind," 1872; W. B. Wait, "The New York System of Musical Notation and Point Writing and Printing," 1873 (revised edition, 1892); W. B. Wait, "Punctographic System of Tangible Musical Notation and Point Print Writing and Printing," 1882; W. B. Wait, "Origin of the New York Institution for the Blind (Origin and Development of New York Point System)", 1891; W. B. Wait, "True Structural Basis of a Punctographic System," 1892; W. B. Wait, "Key to the New York Point System of Tangible Writing and Printing," 1893 (revised edition, 1912); W. B. Wait, "Comments on Uniform Type Question," 1908; W. B. Wait, "Phases of Punctography," 1914; W. B. Wait, "Uniform Type Question," 1915; W. B. Wait, "New Aspects of Uniform Type Folly," 1916; Uniform Type Committee, Reply to Mr. Wait, 1908; E. B. F. Robinson, "True Sphere of the Blind," 1896, p. 108 (England); Alexander Barnhill, "New Era for the Blind," 1875, p. 29 (England); S. S. Forster, "The Future of the Blind," 1875 (England); R. H. Blair, "Education of the Blind" (read at Meeting of the National Association for the Promotion of Social Science, Birmingham, England), 1870; E. C. Johnson, Report on Apparatus and Methods Used in the Instruction of the Blind, Paris Exhibition, 1867 (England); E. C. Johnson, Report on Methods of Teaching the Blind and the Deaf and Dumb (London Inter-

national Exhibition), 1871; Reports of Juries, Exhibition of the Works of Industry of All Nations, London, 1852, (reprint, 1889) pp. 311, 413; Report of 7th Meeting of the British Association for the Advancement of Science, 1837, vi., p. 87; Proceedings of Cleveland Institution of Engineers (Middlesburg, England), 1875, p. 91; *North British Advertiser*, July 16, 1841 (letter of S. G. Howe); T. R. Armitage, "Education and Employment of the Blind," 1871 (England); *Leicester Journal*, Feb. 12, 1869 (T. R. Armitage, "Books for the Blind"); Reply of Dr. Armitage to a Pamphlet by Mr. Wait, 1873 (England); Wm. Moon, "Moon's System of Reading for the Blind," 1873 (England); J. Knowles, "London Point System," 1904 (England); Abbé C. Carton, "Establishments for the Blind in England" (translation), 1838; Alfred Hirst, "Types for the Blind," 1894 (England); "The Braille and New York Point Writing Systems Compared," 1874 (England); G. W. Jones, "New York Point or Braille," 1909; W. C. Posey, "Hygiene of the Eye," 1918. pp. 302, 320; Frank Maciewski, "The Blind Review," 1917, p. 14; Charles Baker, "Education of the Blind," "Alphabets for the Blind," from English Encyclopedia, 1859; E. R. Scott, "History of the Education of the Blind Prior to 1830," 1916 (England); Émile Javal, "The Blind Man's World" (translated by W. E. Thomson), 1904, p. 67 (England); Émile Javal, "On Becoming Blind" (translated by C. E. Edson), 1905, p. 96; "To the Directors of Institutions for the Blind in Great Britain and Ireland," 1837; Transactions of International Congress on Hygiene and Demography, England, 1893, p. 224; Transactions of Royal Scottish Society of Arts, 1895, p. 10; J. V. Armstrong, "History and Prospects of Tennessee School," 1898; S. P. Ruggles, "Open Letter on Books and Printing for the Blind," Jan. 1, 1871; Report of S. P. Ruggles to Committee of American Association of Instructors of the Blind, 1872; In Memoriam, John Dennison Russ, 1881; American Social Science Association, Report, "Printing for the Blind," 1875; American Printing House for the Blind, Reply to Report of American Social Science Association, "Printing for the Blind," 1875; Frank Rainey, "The Roman Letter" (read before World's Congress of Educators of Blind Children, Chicago), 1893; M. W. Sawyer, "A Reviewer Reviewed," 1891; F. B. Sanborn, "Samuel Gridley Howe the Philanthropist," 1891, p. 125; Report of Smithsonian Institution, 1909, p. 683 (translation from French of Pierre Villey, in *Revue des Deux Mondes*, March 15, 1909); Smithsonian Institution, Information for Publication, April 10, 1915; *Scottish Christian Herald*, iii., 1838, p. 275; i. (n. s.), 1839, p. 271; *Christian Observer*, xxxv., 1835, p. 175; *Athenaeum*, x., 1837, p. 729; *Spectator*, xli., 1868, p. 398; cxii., 1914, p. 514; *Tinsley's Magazine*, xlviii., 1871, p. 676; *Hogg's Instructor*, vi., 1856, p. 130; *English Illustrated Magazine*, xxxiii. (n. s.), 1905, p. 128; *Edinburgh Review*, xcix., 1854, p. 61; clxxiii., 1891, p. 123; *Household Words*, vii., 1853, p. 421; *Monthly Review*, cxxxii., 1833, p. 275; *Quiver*, ix., 1893, p. 243; *Leisure Hour*, xiii., 1864, p. 606; xxviii., 1879, p. 251; *Quarterly Review*, cxviii., 1865, p. 430; *London Times*, Jan. 3, 1870; *Penny Magazine*, v., 1836, p. 387; vi., 1837, p. 363; vii., 1838, p. 111; *Meliora*, iii., 1861, p. 1; *Cornhill Magazine*, ix., 1864, p. 603; xxxiii., 1876, p. 349; *National Review*, x., 1860, p. 75; *Journal of Society of Arts*, xviii., 1870, p. 195; xxvii., 1879, p. 226; xxxiv., 1886, p. 543; *Chambers's Journal*, xlv., 1868, p. 136; *Literary World*, xxix., 1898, p. 232; *Macmillan's Magazine*, lxiv., 1891, p. 51; *Canadian Monthly Magazine*, v., 1880, p. 171; *Southern Literary Messenger*, xiv., 1848 p. 572; *Literary and Theological Review*, iii., 1836, p. 266; *American Annals of Education*, v., 1835, pp. 135, 188, 236; *American Journal of Education*, iv., 1857, pp. 127, 134; *Museum of Foreign Literature, Science, and Art*, xxiv., 1834, p. 230; xxvi., 1835, p. 571; *Littell's Living Age*, xl., 1854, p. 435; lxiii., 1859, pp. 51, 701; *Western Educational Review*, Feb., 1871, p. 53; *Common School Journal*, Boston, xi., 1849, p. 287; *Pictorial Gallery of Arts*, 1847, p. 350; *Southern Bivouac*, iv., 1885, p. 407; *American Cabinet and Boston Athenaeum*, Nov. 31, 1849; *Boston Commonwealth*, June 11, 1881; *National Magazine*, viii., 1856, p. 540; x., 1857, pp. 33, 121, 247; *Mentor*, i., 1891, p. 216; iii., 1893, p. 281; *Problem*, i., 1900, p. 19; iii., 1902, pp. 12, 89, 174; iv., 1903, p. 59; *Chautauquan*, xv., 1892, p. 65; *Lend a Hand*,

iii., 1888, p. 318; xii., 1894, p. 111; *Colorado Index* (Colorado School), Dec. 10, 24, 1903; *Michigan Mirror* (Michigan School for the Deaf), March 3, 1895; *Talks, Tales, and Public Opinion*, Nov., Dec., 1901; Jan., Feb., 1902; *Voices from Darkland*, June, 1916; Penny Cyclopedia, 1835, iv., p. 515; English Encyclopedia, 1802, Art. "Blind"; Chambers's Encyclopedia, 1879, Art. "Blind"; Tomlinson's Cyclopedia of Useful Arts, 1868, ii., p. 400; Encyclopedia or Dictionary of Arts, Sciences, etc., 1798, Art. "Blind"; National Encyclopedia (England), 1872, Art. "Blind"; Population of United States in 1860, from 8th census, 1864, pp. lxxiv., 687; Cyclopedia of Education, 1877, p. 85; Nelson's Encyclopedia, 1917, ii., p. 136; Teachers' Encyclopedia (England), 1912, vi., p. 1; Catholic Encyclopedia, 1909, v., p. 306; Reference Handbook of Medical Sciences, 1913, ii., p. 46; Report of United States Commissioner of Education, 1913, i., p. 477; 1915, i., p. 510; American Encyclopedia of Ophthalmology, 1916, i., p. 249; viii., p. 6372; Cyclopedia of Education, 1911, i., p. 395; Proceedings of 3rd Reunion of Officers and Alumni of Ohio School, 1880, p. 77; Report of New York Association for the Blind, 1907, p. 50; *Scribner's Magazine*, xii., 1892, p. 373; *Harper's Magazine*, xxxv., 1867, p. 767; *Public Libraries*, ix., 1904, p. 147; *Library Journal*, xxx., 1905, p. 269; *New England Magazine*, iii. (n. s.), 1890, p. 320; *North American Review*, xxxvii., 1833, p. 20; *Catholic World*, xlviii., 1889, p. 671; lxi., 1895, p. 32; *National Magazine*, xxxix., 1914, p. 835; *Annals of Ophthalmology*, xiii., 1904, p. 754; *Nation*, xii., 1871, p. 431; *Popular Science Monthly*, xxxiii., 1888, p. 643; *Scientific American*, cvi., 1912, p. 216; Supp., Sept. 10, 1917; *Century Magazine*, xxxv., 1888, pp. 163, 806; lxxviii., 1909, p. 640; *Outlook*, xci., 1909, p. 859; xcii., 1909, p. 132; *Journal of Education*, lxix., 1909, p. 662; *Illustrated World*, xxxviii., 1917, p. 46; *Missionary Review of the World*, xxix., 1906, p. 95; *Strand Magazine*, xlvi., 1913, p. 94; *Literary Digest*, lviii., 1918, p. 24; *Technical World Magazine*, xxii., 1914, p. 551; *Popular Mechanics*, xxvi., 1916, p. 215; *Ohio Harp*, vi., 1910, p. 51; *Braille Review* (England), Aug., 1904; Oct., 1911; Jan., Nov., 1914; Feb.–April, Sept.–Dec., 1915. Feb., 1916; *Teacher of the Blind* (England), iii., 1915, pp. 10, 38, 45, 50, 78, 79, 83, 91; iv., 1916, pp. 8, 15, 31; v., 1917, pp. 22, 57; vi., 1918, p. 31; *Progress* (England), Nov., 1914; *Survey*, xxii., 1909, p. 5; xxxi., 1913, p. 172; xxxiv., 1915, p. 533; xxxviii., 1917, p. 341; *Outlook for the Blind*, i., 1908, p. 154; ii., 1908, p. 47; iii., 1909, pp. 25, 64; iv., 1910, p. 73; viii., 1914, pp. 71, 131; ix., 1915, p. 61; x., 1916, pp. 18, 67; x., 1917, p. 103; xi., 1917, pp. 6, 20; xii., 1918, pp. 56, 79; *American Journal of Ophthalmology*, xvi., 1909, p. 131; *St. Nicholas*, xxxvii., 1910, p. 648; Report of Illinois Board of Charities, 1872, p. 32; Bulletin of Iowa Institutions, ii., 1900, p. 60; Proceedings of American Association of Instructors of the Blind, 1871, p. 41; 1890, p. 42; 1892, p. 62; 1912, pp. 21, 28; 1916, p. 32; 1918, p. 18; Proceedings of American Association of Workers for the Blind, 1907, p. 66; 1909, p. 59; Report of Uniform Type Committee, 1907–1915; Encyclopedia Medica, 1915, ii., p. 239; Report of Michigan Employment Institution, 1908, p. 43; 1910, p. 31; Report of Perkins Institution, 1839, p. 20; 1853, p. 30; 1846, p. 42; 1895, p. 75; 1917, p. 26; New York Institute, 1836, p. 40; 1866, p. 35; 1867, p. 18; 1868, p. 20; 1871, p. 21; 1874, p. 20; 1881, p. 19; 1890, p. 21; 1902, p. 19; 1907, p. 37; 1912, p. 39; 1916, p. 39; Pennsylvania Institution, 1839, p. 12; 1870, p. 20; 1872, p. 13; 1892, p. 32; 1915, p. 29; Indiana School, 1871, p. 24; New York State School, 1893, p. 30; 1898, p. 17; 1914, p. 31; Texas School, 1892, p. 7; 1894, p. 12; 1904, pp. 7, 31; Nebraska School, 1916, p. 9; Iowa School, 1893, p. 20; Missouri School, 1860–1868; 1893, pp. 21, 37. See also reports and other publications of Uniform Type Commission; English and American publications for the blind; reports of schools for the blind.

CHAPTER XXVII

PUBLICATIONS IN RAISED PRINT FOR THE BLIND

Value of Raised Print for the Blind

After a form of raised print had been found which could be used by the blind for their reading, we might expect that a literature would be produced in this type for their especial benefit. In this way they would be provided with reading matter in the same way as are people who can see, and their intellectual needs would be similarly met. Means for reading would thus be alike accessible for blind pupils in their schools as an instrument in their instruction, and for the blind past such stage for their general culture and profit. Through this gateway come the first ministrations to the adult blind along other than material lines, and through it the extension of facilities for mental improvement from the young to the old.

To provide reading matter for the blind on a fitting scale, several things are necessary. In the first place, there must be instituted special printing establishments able to put forth this matter, which is to include books, periodicals, and other composition. Next, to secure an extensive use of such publications, appliances must be rendered available for the dissemination of it from as many centers as possible. For this purpose an existing agency may be called into requisition to a considerable degree, namely, public libraries, both city libraries and those of other systems. Finally, to ensure the bringing of the fullest benefit in the way of mental gratification and relief to the blind, even further operations may be undertaken, with instruction carried by special agents directly into their homes. These several forms of intellectual provision for the adult blind are

now to be considered in detail, the first to be considered being the preparation of printed matter in raised print.

Printing Houses for the Blind

Proposals for the preparation of embossed literature for the blind are met at the outset by a very serious difficulty. This is the expense involved in the project, the cost of printing matter in raised print being far greater than of that in ordinary ink print.[1] For the large number of the blind the individual purchase to any considerable extent of publications in raised print is out of the question; nor is it to be thought that sufficient funds may be raised among them to render such publication in any measure an undertaking commercially profitable. Hence if the actual production of literature for the blind is to materialize, we must look for it to the enlistment of agencies not operated for gain.[2]

In this expectation we do not find ourselves disappointed. For the furnishing of printing houses for the blind, the necessary funds have been forthcoming, not only from private sources, but from public funds as well. Public action, however, has been confined rather to the aiding of establishments already brought into existence. In this work a part has been played both by the National Government and by several individual States. The former in particular has rendered material assistance; and indeed so notable has been its contribution for the enlightenment of the blind by this means that it may be said to have compensated in

[1] The preparation of the plates and the printing of an ordinary octavo volume of 15 copies costs from two to three hundred dollars. Report of New York State Department of Education, 1914, p. 366. It is to be remembered that often several volumes are required to make a single "book." The cost of printing books for the blind, as determined by the price list of the American Printing House for the Blind, may be indicated from the following minimum quotations: the works of Shakespeare, from $1.50 to $3.50 each; Milton's "Paradise Lost" (2 volumes), $9; Bunyan's "Pilgrim's Progress" (3 volumes), $5; Scott's "Marmion," $2.50; Green's "Short History of the English People" (9 volumes), $31.50; Dickens' "David Copperfield" (6 volumes), $21; Irving's "Sketch Book" (3 volumes), $10.50; Carlyle's "Heroes and Hero Worship" (2 volumes), $6; Blackmore's "Lorna Doone" (5 volumes), $17.50.

[2] On the value of books in raised print for the blind, see *Lend a Hand*, iii., 1888, p. 518; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 53; *Scientific American*, cxix., 1918, p. 224.

no small measure for its failure to make special provision for their higher education.

There are in the United States two principal plants for printing books for the blind—besides several plants used chiefly for the publication of periodicals, together with smaller systems in some of the schools. The two main concerns are the American Printing House at Louisville, an independent establishment, and the Howe Memorial Press at Watertown, Massachusetts, in connection with the Perkins Institution. Both of these are private affairs, though the former owes its existence in the greatest degree to the action of several State legislatures, while its permanent support has been assured by the action of the National Government.

The need of a general printing plant was early felt by the blind and by their educators and friends. A few schools had commenced operations on a small scale in this direction, but their product was of most limited character.[1] The printing of books for the blind was found, as we have just noted, to entail too considerable an expense to be more than sparingly attempted. The only practicable scheme appeared to be the inauguration of some central house which could answer the wants of the entire country. At the first meeting of the American Association of Instructors of the Blind in 1853 the necessity of a printing establishment was strongly presented, and determined efforts began to be put forth for its creation.[2]

In 1855 an organization was effected in the State of Kentucky, which as the result of private interest and benevolence succeeded in establishing a house at Louisville, known as the Kentucky Printing House for the Blind.[3] In 1858 this was incorporated by the legislature of the

[1] On the efforts in certain States to provide reading matter, see Report of Kentucky School, 1857, p. 8; 1859, p. 10. See also Chapter XXVI.

[2] See Proceedings, 1853, pp. 3, 5, 29; 1910, p. 5.

[3] The first funds were collected largely through the enterprise of special agents. It is interesting to note that shortly after the plant was started, sufficient subscriptions were secured by a blind man to have "Paradise Lost" embossed. Report of Kentucky School, 1857, p. 7.

State under the name of the American Printing House for the Blind,[1] with an appropriation which eventually amounted to $40,000, to provide land and a building. In several other States, especially in the South, the possibilities of the undertaking were realized, and, it being felt that the enterprise should be somewhat of an inter-State affair, and as such should be supported in large part by the different States, a willingness to coöperate was professed. In certain States, including Tennessee, Mississippi, Louisiana, Arkansas, New Jersey, Pennsylvania, and New York, auxiliary boards were formed under the authority of the legislatures, with the object of rendering assistance, and it was mainly through them that private funds were raised.[2] In Kentucky, Louisiana, Mississippi, Tennessee,

[1] Laws, 1858, p. 192; 1860, p. 247. In recognition of the aid from the auxiliary boards created in several States the governing board was at first composed of six trustees, including the presidents of such auxiliary boards. In 1861 the charter was amended so as to give power of visitation and control also to the Governors of the States making appropriations, and to the superintendents of schools for the blind assisting.

[2] These auxiliary boards were legal corporations, consisting as a rule of five members each, some being self-perpetuating. On organization of such boards, see Proceedings of American Association of Instructors of the Blind, 1880, p. 67. See also Report of American Printing House, 1869, p. 7. In several States, as Louisiana, Mississippi, and Tennessee, it was agreed that if $25,000 were not secured within seven years, including $2,000 from public funds, the money subscribed should revert to the donors. It was in large part due to this provision that all the money raised did not reach its intended use. Much litigation arose as to its application, many suits being brought to recover money, particularly after it was learned that action for the benefit of the printing house had been taken by the National Government. In Louisiana especially the legal proceedings were long drawn out, finally coming to the United States Supreme Court. An action was brought by the American Printing House at Louisville against the board of trustees of Louisiana for an accounting of the funds in their hands, and for the turning over to it of such funds. The question was found to hinge upon the change in the charter of the house, which had altered the constitution of the governing board. The Court held this to be a fundamental alteration in the organization of the enterprise, and the printing house in consequence to be barred from recovering the funds. *American Printing House for the Blind v. Louisiana Board of Trustees*, 104 U. S., 711 (1881). Considerable litigation also took place in the State courts of Louisiana as to the disposition of the funds raised, many of the donors demanding the return of their contributions. The end of the matter was when the local trustees were obliged to turn over the unclaimed balance of their funds for the benefit of the State school for the blind, and were then discharged. The sum of $2,000, which had been granted by the State in aid, was allowed to be recovered by the State, this also being applied for the benefit of the school. See *Louisiana Board of Trustees of American Printing House for the Blind v. Dupuy et al.*, 31 La. Ann., 305 (1879); same case, 37 La. Ann., 188 (1885); Report of Louisiana School, 1879, p. 8; 1888, p. 51; 1890, p. 5.

New Jersey, and Delaware distinct appropriations were made to help carry on the work, the amount being usually determined by the number of the blind who were expected to be benefited; while in Ohio, Indiana, and Illinois legislative sanction in some form was given.[1] In nearly all these States and in others funds were supplied from private means as well.[2] Joint action of the several States, however, was frustrated by the outbreak of the Civil War. The promised aid, which had always been difficult of realization, gradually fell off; and, finally, the States that had set out to assist withdrew one after the other, the last being New Jersey, Delaware, and Kentucky.

But though direct aid on the part of the States to the printing house had come to an end, the situation proved to be really changed for the better. It had been found possible to procure assistance of another and more reliable character.[3] As the States had dropped off in their support

[1] Laws of Kentucky, 1865, p. 140; 1880, ch. 326; Laws of Mississippi, 1857, p. 133; Laws of Tennessee, 1857, ch. 178; 1860, ch. 124; Laws of Louisiana, 1860, no. 163; Laws of Pennsylvania, 1872, p. 1033; Laws of New York, 1868, p. 859; Laws of New Jersey, 1872, p. 69; Laws of Delaware, 1873, ch. 413; Rev. Stat., 1915, p. 246. In Tennessee the sum of $10 was also allowed for each blind person between the ages of six and sixty. In Kentucky $5 for each blind person was appropriated from 1865 to 1880. In New Jersey $5,000 was appropriated, and in Pennsylvania $8,000. In Delaware a sum was granted to yield $100 a year.

[2] Private funds were raised mainly in Illinois, Indiana, Ohio, Kentucky, Tennessee, Mississippi, Louisiana, and a few other States. Not only were contributions secured through the auxiliary boards, but canvassers were employed by the printing house to solicit subscriptions. In not a few quarters the response was a generous one, the amounts given usually ranging from $5 to $100. In Kentucky in one year over $2,000 was contributed. All the money raised by the auxiliary boards did not reach the printing house, as we have seen. In Tennessee within seven years after funds had begun to be raised they amounted to $38,780, though little if any of this seems to have been received at Louisville. In Mississippi of $12,000 thus secured, only $1,005 came to the house. In Louisiana between 1859 and 1861 there was raised $1,600, which by 1871 had amounted to $32,000, though but a small part of this was used to assist the printing plant. On efforts to raise funds, see Circular of Board of Trustees to Citizens of Kentucky, 1860; Circular of American Printing House for the Blind to Friends of the Blind, 1860; Circular of American Printing House for the Blind, Board of Trustees of Illinois, 1869; and similar circulars. See also early reports of American Printing House; Speech of A. S. Willis, in House of Representatives, Jan. 17, 1879, p. 6.

[3] It is interesting to note that a private citizen, Samuel P. Ruggles, of Massachusetts, offered in 1868 to provide at his own expense a printing plant provided the institutions would guarantee to accept it. Proceedings of American Association of Instructors of the Blind, 1871, p. 40; Report of S. P. Ruggles to Committee of Amer-

of the plant, its sustentation fell almost entirely on the schools for the blind. The latter did not show themselves slow to recognize their duty, and by 1879 every school with but one exception was engaged in contributing to the maintenance of the establishment.[1] It was felt, however, that inasmuch as printing for the blind was a matter of national concern, the National Government should be called on directly for assistance.[2] From the time that the first agitation had been begun for a printing house, especially on the part of the American Association of Instructors of the Blind, the advisability of a request of this kind upon Congress had been considered; and in 1876 at the regular convention of this body, when twenty-six schools were represented, the movement came to a head, and Congress was formally asked to subsidize the house.[3]

ican Association of Instructors of the Blind, 1872; Report of Kentucky School, 1871, p. 15; *Nation*, xii., 1871, p. 431.

[1] There was organized in Philadelphia in 1867, by N. B. Kneass, the National Association for Printing Literature and Musical Works for the Blind, which received some contributions, and published a half dozen or more books. In 1872 it was absorbed with the Louisville house, becoming an auxiliary of it. See Proceedings of American Association of Instructors of the Blind, 1871, p. 39.

[2] In connection with the efforts to create a National printing house for the blind, it is interesting to note that for a time the American Printing House was threatened with a rival organization. This was to be in the form of the American Printing House and University for the Blind, performing the double function of a printing establishment and an institution for higher education. It was proposed about 1870 by one Dempsey B. Sherrod, himself a blind man, who had formerly been an agent for the Louisville house. A board composed of prominent citizens was organized, circulars were sent out to secure funds, local bodies were formed to assist, and certain of the States of the South and Middle West were canvassed. The sum of half a million dollars was sought from Congress for the enterprise, which was to be located at Washington. A bill in line with these plans was offered in Congress though it received little serious consideration. See "American Printing House and University for the Blind," 1868; 41st Cong., 2nd sess., April 18, 1870, H. R., 649. In one State legislative commendation was lent to the scheme, Pennsylvania requesting its members in Congress to vote for the bill. Laws, 1872, p. 1196. Most of the educators of the blind, however, did not look favorably upon the plan; and individually and through the American Association of Instructors of the Blind denounced it. The American Printing House for the Blind sent a memorial to Congress in protest. Report, 1870, p. 13. See also Proceedings of American Association of Instructors of the Blind, 1871, pp. 8, 30; Report of Kentucky School, 1870, p. 8; S. G. Howe, "Warning against D. B. Sherrod," 1875; Circular of American Printing House for the Blind to Friends of the Blind in the United States, 1870; *American Printing House for the Blind v. Louisiana Board of Trustees*, 104 U. S., 711 (1881).

[3] See Proceedings, 1876, p. 67. See also *ibid.*, 1871, p. 7; 1878, p. 10; Report of American Printing House, 1870, p. 13. In Virginia the State legislature presented

In 1879 a favorable answer was rendered. The sum of $250,000 was set aside by Congress for the benefit of the printing house in 30-year four per cent bonds, from which $10,000 a year was to be yielded, the funds being held in trust by the Secretary of the Treasury.[1] In 1907 when the time limit of the bonds was about to expire, the endowment was made a perpetual trust, a permanent subsidy being granted from year to year. The sum originally bestowed was reserved, and credited on the books of the Secretary of the Treasury; and in place of interest upon it, an annual appropriation of $10,000 was fixed upon. In the words of the statute, it is directed that this amount—

> In lieu of reinvestment in other Government bonds, be set apart and credited upon the books of the Treasury Department as a perpetual trust fund, and the sum of $10,000, being equivalent to the four per centum on the principal of said trust fund, be, and the same is hereby, appropriated . . . and such appropriation shall be deemed a perpetual annual appropriation.[2]

In return for the aid from the National Government, it is provided that books shall be distributed free to the pupils in the several schools for the blind of the country according

a resolution to Congress. Laws, 1871, ch. 198. On the general organization and development of the American Printing House, see "Brief Points in Favor of Bill Entitled 'An Act to Promote the Education of the Blind in the Several States and Territories,'" 1879; 45th Cong., 2nd sess., H. R., Report no. 455, Committee on Education and Labor; Speech of A. S. Willis, in House of Representatives, Jan. 17, 1879; Speech of Benjamin Dean, in House of Representatives, June 18, 1879; Report of American Printing House, 1878, pp. 5, 11; 1879, p. 4; 1880, p. 14; 1882, p. 7; Proceedings of American Association of Instructors of the Blind, 1871, pp. 97, 105; 1876, p. 41; 1880, pp. 14, 67; 1910, p. 3; 1912, p. 21; Report of United States Commissioner of Education, 1879, p. clxvii.; 1881, p. ccxvii.; *American Printing House for the Blind v. Louisiana Board of Trustees*, 104 U. S., 711 (1881); *Louisiana Board of Trustees of American Printing House for the Blind v. Dupuy et al.*, 31 La. Ann., 305 (1879); same case, 37 La. Ann., 188 (1885); Report of Wisconsin School, 1861, p. 14; Georgia School, 1876, p. 11; North Carolina School, 1884, p. 16; Pennsylvania Institution, 1914, p. 91; *Outlook for the Blind*, vi., 1913, p. 97; Trustees of American Printing House, Reply to Report of Committee of American Social Science Association, 1875; *Detroit Free Press*, May 13, 1875.

[1] Stat., 1879, ch. 186. The charter of the house has been amended to conform to the Federal requirements.

[2] Stat., 1906, p. 460; U. S. Comp. Stat., 1916, §§ 9386–9390.

to the number in each.[1] The house is allowed to sell and give away matter, but is forbidden to make a profit, all sales being at cost. The principals of the different schools for the blind are made *ex-officio* trustees, and form an advisory committee for the selection of books to be printed.[2]

The second important printing plant for the blind in the United States is the Howe Memorial Press in connection with the Perkins Institution near Boston. It also represents the results of long endeavor to obtain a printing establishment. Funds had been raised shortly after the opening of this school for the purpose of embossing books, but these were expended as fast as secured. In time special efforts were put forth to obtain a special fund.[3] These had their culmination in 1881 when a general appeal for the sum of $100,000 was issued, with especial attention to the New England States. The response proved to be at once prompt and satisfactory, for within six months even more than the sum asked for was in hand.[4] The endowment fund now

[1] Day schools now share equally with institutions in the allowances. Blind persons in industrial establishments who may be regarded as benefiting by instruction in embossed print are also included. This ruling was made by the Secretary of the Treasury, after an opinion had been given by the Solicitor of the Department of Justice, the question having come up in connection with an industrial shop. See Reports of Michigan Employment Institution for the Blind, 1905–1907; Address of Trustees of American Printing House for the Blind, 1907; Report of American Printing House, 1907, Exhibits A, B, C, D. The *pro rata* distributions have decreased as the number of blind pupils has increased. In 1881 the amount for each pupil was $4.40; it is now less than $2. The income of the house amounts to about $25,000, coming mostly from the Government grant, and from orders from schools and libraries. Congress has now been asked to increase its allowance to $50,000. *Ibid.*, 1918, p. 12. See also Report of Pennsylvania Institution, 1914, p. 91.

[2] Much latitude has been allowed in the forms of the matter printed. The New York Institute, for instance, has been permitted to use its quota in the preparation of musical works.

[3] In the case of this plant also, there was application to Congress for aid, though without success. Dr. Samuel G. Howe of the Perkins Institution twice visited Washington with some of his pupils, the first time in 1836, and the second ten years later. He hoped that a grant might be made in connection with the Smithsonian fund, or from a fund similar to that made for the benefit of the American School for the Deaf at Hartford, Connecticut. His plan called for a "library," though its real purpose was the embossing of books. The sum of $100,000 was asked for. On the visit of Dr. Howe in 1846, he came near realizing his wish, being only defeated by the outbreak of the Mexican War. See Report of Perkins Institution, 1837, p. 13; 1846, p. 48; *Nation*, xii., 1871, p. 431.

[4] See Proceedings of Public Meeting on behalf of Printing Fund for the Blind, 1881; Perkins Institution, An Appeal to Friends of the Blind, 1877.

exceeds a quarter of a million dollars, donations from private sources still coming from time to time. Much matter is distributed by the Howe Press without charge.[1]

In addition to the houses at Louisville and Boston, there are a number of other plants which emboss matter for the blind. A few presses employed in printing periodicals for them occasionally publish other forms of raised composition. Some of the schools for the blind, including several of the day schools, have small plants, which are in large part intended for the preparation of matter for local use, though sometimes employed for works for more general consumption.[2]

These, then, are the special embossing establishments for the preparation of literature for the blind. The total output of the plants is not large. Probably not more than half a hundred new books for the blind are placed in circulation each year. In all the United States today there are perhaps somewhat under three thousand different titles of books, of which there may be as many as forty thousand separate copies—not including pamphlets and magazines.[3]

[1] Nearly all the raised print done here has been in American Braille. It was hoped for a time that the Howe Press might share with the Louisville plant in the subsidy from the National Government. See M. Anagnos, "A National Subsidy Fund for the Blind," 1885. See also *Boston Globe*, Jan. 23, 1898.

[2] In a few cases there are special funds for this purpose. Some of the schools began printing at an early date, as we have seen, notably the Perkins Institution, the New York Institute, the Pennsylvania Institution, the Virginia School, and the North Carolina School. Other schools now so engaged are the Western Pennsylvania Institution, the institutions in Illinois, Missouri, Michigan, and South Dakota, and the day schools in Cleveland, Chicago, Milwaukee, and New York. Some schools, especially those employing New York Point, send stereotyped plates to the American Printing House for press work. At the New York Institute most of the musical works in New York Point, as well as a number of text-books, especially in languages, have been printed. In Cleveland is the Howe Publishing Society for the Blind, organized in 1910, by which is prepared some literature. In several of the homes and industrial establishments there are small outfits for the embossing of certain matter.

[3] Probably not less than half of these books are found at the schools. The American Printing House has possibly a thousand different titles. The United States is said to lead the world in the number of embossed books for the blind, and also to possess the finest literary and scientific works for them. *Charities and the Commons*, xv., 1906, p. 641; *Library Journal*, xxx., 1905, p. 41. On the number of books printed, see Report of New York State Board of Charities, 1913, i., p. 247.

Periodicals for the Blind

There are at present in America, all told, over a dozen periodicals in raised print for the blind, practically all of which have been started since the beginning of the twentieth century.[1] Only the smaller number of these, however, have what may be called an extensive circulation, that of the remainder being of a restricted, often of a local, character.[2] Some are of a religious type, being conducted under the auspices of denominational bodies. The periodicals are for the most part monthlies, varying in size from a pamphlet of a few pages to a volume of considerable size. A few are sent entirely without cost to their readers, the expenses being defrayed from private means. The formal subscription price for the others is from 50 cents to two and a half dollars a year.[3]

The largest and most important periodical is "The Matilda Ziegler Magazine for the Blind," which was established in New York in 1907. The cost, which amounts to about $23,000 a year, is borne from a fund donated for the purpose. This magazine is published monthly in both New York Point and American Braille; and is sent out without charge.[4] It contains much matter of general interest, and has a wide circulation, some 9,000 copies of each issue being distributed.[5]

[1] In periodicals for the blind reproductions and quotations are in general freely allowed by authors.

[2] It may be noted that most of the independent periodicals are undertaken by blind persons.

[3] On periodicals for the blind, see *Outlook for the Blind*, x., 1916, p. 61; American Encyclopedia of Ophthalmology, 1916, ix., p. 6523; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in the United States," 1916, p. 109; Report of Massachusetts Board of Education, 1900, pp. 523, 537, 542; *Voices from Darkland*, June, 1916; Blind People's Higher Education and General Welfare Association, Special Bulletin, 1899.

[4] "During this century no single effort in behalf of the blind has brought so much happiness to those who spend their lives in darkness." American Encyclopedia of Ophthalmology, 1916, ix., p. 6525; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916, p. 110.

[5] At first a nominal charge of 10 cents was made. For a time there was issued a quarterly musical supplement. Not a little social service for the blind has been done by this publication, especially in an advisory capacity, in providing theatre

Other secular publications are "The Weekly Review for the Blind," of Milwaukee, in New York Point, which was begun in 1905, and which is subscribed for at $2.50 a year; "The World of the Blind," of St. Louis, founded in 1915, and published monthly in American Braille by the United Workers for the Blind of Missouri (with an edition also in ink print), at a charge of $1 a year; "The Searchlight," of New York, a magazine for children founded in 1910, and published quarterly in American Braille without charge by the New York Association for the Blind; and "The Juvenile Magazine" in American Braille, started in 1913, and issued by the Howe Publishing Society for the Blind of Cleveland, with an annual charge of 75 cents outside of that city.

The remaining periodicals are religious in character. In New York is "The Catholic Transcript for the Blind," founded in 1900, and published monthly in New York Point by the Xavier Free Publication Society for the Blind; and in Chicago, "The Catholic Review for the Blind," founded in 1912, and published monthly in American Braille at a charge of 50 cents a year by the same organization. In Milwaukee is issued "Lux Vera" in New York Point, a monthly, at a charge of $1.50 a year. At Anderson, Indiana, is published in both types "The Gospel Trumpet," a monthly, begun in 1913, and "The International Sunday School Quarterly," begun in 1917,[1] both under the direction of the Department for the Blind of the Gospel Trumpet Company, the subscription price of the former being $1.50, and of the latter $2. At College View, Nebraska, is issued without charge every month in both types "The Christian

tickets, and in marketing products. On this magazine, see *Scientific American*, xcviii., 1908, p. 351; cvi., 1912, p. 217; cxix., 1918, p. 226; *Harper's Weekly*, March 30, 1907; *American Printer*, xlvi., 1908, p. 276; *Popular Mechanics*, xx., 1913, p. 11; *Leslie's Weekly*, March 26, 1908; *New York World*, Nov. 4, 1906; *Chicago Tribune*, May 19, 1907; *New York Herald*, Jan. 5, 1908; *New York Times*, April 3, 1910; *New England Magazine*, xxxvii., 1908, p. 749.

[1] This was formerly published by the Society for Providing Evangelical Religious Literature for the Blind. The Sunday School lessons were also for a time contained in "The Young People's Herald."

Record," begun in 1905 under the auspices of the Adventist body, which contains much general matter, and which has several thousand readers.[1]

There have also been periodicals at certain of the schools for the blind, largely of a local nature, the number at present being four.[2]

Preparation of Occasional Reading Matter for the Blind

The preparation of special printed matter for the blind, other than regular books and periodicals, has likewise been undertaken. This is accomplished by a few private societies which usually engage some special printing establishment to do their printing. The foremost work of this character is that of the American Bible Society, which became interested in the blind in 1842. Between one and two hundred

[1] In 1917 at Jacksonville, Illinois, was organized the National Embossing Press, "to publish, distribute, and circulate periodicals, books, pamphlets, and music for the blind." Among the periodicals suggested by it are dailies in several of the larger cities, a weekly, and a monthly musical magazine. This press is the successor of the Novel Music Embossing Company, which from 1915 to 1917 published "The Music Survey," a monthly, and "The Weekly News," the former at an annual charge of $2, and the latter at an annual charge of $3. At Provo, Utah, there was started in 1913 "The Messenger to the Sightless," which continued for a time. At Lansing, Michigan, "Work and Welfare," a quarterly in American Braille and New York Point, was published from 1904 to 1905. In Philadelphia in 1867 was begun by N. B. Kneass a periodical known as "Kneass's Quarterly Magazine for the Blind" in line print, which in 1876 became a monthly under the name of "Kneass's Philadelphia Magazine for the Blind." In 1900 this gave place to "The Point Print Standard," in New York Point, which continued till 1904, being accompanied for a short time by "The Braille Leader." The annual price of these several publications was sometimes $2, and sometimes $2.50. In 1876 was begun "Kneass's Music Journal," which was short lived.

[2] These are "The Free Press," a monthly in New York Point, without charge, at the Wisconsin School, begun in 1894; "The Michigan Herald for the Blind," a quarterly in American Braille, at a charge of 25 cents, at the Michigan School, begun in 1911; "The Illuminator," a quarterly in American Braille, without charge, at the Western Pennsylvania Institution, begun in 1912; and "The Red and White," a quarterly in American Braille, without charge, at the Pennsylvania Institution, begun in 1914. There have been several other magazines published at the schools. The earliest was "The Student's Magazine," a monthly, at the Pennsylvania Institution, which commenced in 1838, and continued till 1845, with a charge of $3 a year. At Fort Gibson, Oklahoma, appeared in 1900 "The Educational Enterprise." In the Illinois School there was begun in 1898 "The Braille Transcript," a quarterly magazine devoted to music, at a charge of 50 cents a year, which lasted several years. At the Michigan School "Current Events" was published from 1901 to 1902.

copies of the Bible are distributed each year.[1] The Society for Providing Evangelical Religious Literature for the Blind was organized in Philadelphia in 1874, and incorporated in 1879. Later it was connected with the American Tract Society, with headquarters in New York, but in 1917 moved back to Philadelphia. Besides furnishing for a considerable time the Sunday School lessons, it has printed over a dozen books for the blind. It now assists in the distribution of the Scriptures.[2] The Xavier Free Publication Society for the Blind of New York, organized in 1900, and a similar body in Chicago, organized in 1911, publish certain Catholic books for the blind, besides the magazines already referred to.[3] In Philadelphia the Society for the Promotion of Church Work among the Blind of the Protestant Episcopal Church has had books of the church service embossed for the blind. In addition, a few libraries have books printed for the blind from time to time.[4] Occasionally funds for embossing books are given by private individuals or societies. Finally, it may be noted that there are a number of publications in the Moon type printed in England which circulate in America, the headquarters for them being Philadelphia.[5]

Free Postage for Literature for the Blind

With the actual preparation of reading matter for the blind, only a part of the task is accomplished in rendering it available for their use. Being much heavier and of a more bulky nature than ordinary matter, its transportation

[1] See Report, 1843, p. 31. From 1887 to 1912 there were 1,700 copies of the Bible printed in raised print in America, while other copies have been imported. About $1,000 is expended annually for the purpose. The Bible is printed in all types, usually requiring eleven volumes for a complete edition. Special publication is frequently given to separate Books. There is usually coöperation with State societies.

[2] The governing board is composed of nine directors. Several thousand dollars a year are given to the society.

[3] On Catholic publications for the blind, see *The Beacon*, New York, Jan. 23, 1909.

[4] This is especially true of the New York State Library. The National Library for the Blind at Washington also does certain printing.

[5] An endowment fund of $100,000 is being raised to publish more books.

would be only at a very great cost- in fact, at such a cost as could not be borne by the blind. In this situation relief has been provided by the United States Government, which allows the reading matter of the blind from libraries to pass through the mails without the payment of postage. In doing this the National Government has come to the assistance of the blind in a manner hardly less marked than in the aid which has been extended in the support of the printing house.[1]

In 1899 a law was enacted by Congress, permitting mail matter in raised print or characters, and unsealed, to be sent as third class matter.[2] In 1904 it was provided that "books, pamphlets, or other reading matter" for the blind, sent out by schools or libraries as loans, provided that packages were not over ten pounds in weight, were unsealed, and contained no advertising, should have free access to the mails.[3] In 1912 this privilege was extended to periodicals for which no subscription fee was charged.[4]

[1] The value of this provision is appreciated when it is realized that several dollars would often be necessary to pay for the sending and returning of the volumes constituting one book. The parcel post reduces such cost but little.

[2] Stat., 1899, ch. 362; U. S. Comp. Stat., 1916, § 7318. See also Proceedings of American Association of Workers for the Blind, 1905, p. 40; *West Virginia Tablet* (West Virginia School), May 17, 24, 31, 1902. In 1898 a bill was presented in the Senate to allow the letters of the blind to be transmitted as first class matter at one cent an ounce.

[3] Stat., 1904, p. 315; U. S. Comp. Stat., 1916, § 7384.

[4] Stat., 1912, ch. 389; U. S. Comp. Stat., 1916, § 7385. Books for the blind are placed on the free list with respect to tariff duties. Stat., 1890, p. 604; 1894, p. 538; 1897, p. 196; 1909, p. 74; 1913, p. 155; U. S. Comp. Stat., 1916, § 5291 (426). Certain copyright regulations do not apply to books in raised print. *Ibid.*, §§ 9536, 9552. Books are exchanged between the United States and Great Britain at very low rates, and at no cost between the United States and Canada.

CHAPTER XXVIII

LIBRARIES FOR THE BLIND

Object and Plan of Libraries for the Blind

With the creation of a special literature for the blind, the possibilities in connection with its dissemination are soon apparent. It is natural to suppose that upon the acquaintance of library authorities with the situation, special reading rooms supplied with books in embossed print would be provided in every city where there are a considerable number of blind persons, a need thus being met with appliances already at hand.[1] Such work, moreover, as we are to find, is of a character, almost necessarily, to be of aid to the blind far beyond the mere furnishing of reading matter. It may serve in no small measure to call attention to their condition and needs, and lead to the bringing of further and more substantial relief to them.

For the purpose of providing the blind with reading matter through libraries, no special buildings are required. Suitable quarters in the regular libraries, stocked with the proper matter, answer quite sufficiently. In order, however, that the facilities may to the furthest degree possible be availed of, there must be a deviation from the usual policy and practice of the library. Arrangements must be made whereby books may be delivered in the homes of the blind, in this way obviating the necessity of personal visits on their part. The special libraries for the blind thus become not so much reading rooms in the usual sense, but rather depositories of books, subject to call, and to be sent

[1] Of the library for the blind in connection with the State Library of New York it is said: "No part of the work of the State library brings such quick and rich results in grateful appreciation." Report of Department of Education of New York, 1914, p. 365.

out wherever they may be desired. In certain cases it may be found of advantage to have persons with sight come and read to the blind; but this is to be rather an incidental operation. In general the best results are to be obtained by the conveyance of the books to the homes of the blind, there to be read by the blind themselves.[1]

Such being the circumstances surrounding the use of books by the blind, it becomes evident that the service of the libraries need not be confined to their own immediate neighborhood and locality, but that they have a field that is bounded only by their facilities. Books may be dispatched to distant places, not only within the State, but outside as well; and opportunity is thus at hand not only for the work of libraries in cities, but also for State libraries, libraries in schools for the blind, and other libraries. Indeed, because of the bulky nature of the volumes themselves, and because of the free use for them of the United States mails, as we have just discovered, it is becoming increasingly the conviction among librarians, and especially among those in work for the blind, that the situation can best be dealt with by a few central libraries conveniently located, by means of which the blind can have a larger stock to draw from, and can be more expeditiously and satisfactorily served.[2]

Libraries as Parts of City Library Systems

Special library work for the blind in the United States, outside of the schools, commenced when the city of Boston in 1868 placed books in raised print in a separate division of its public library. This action was followed by that in Philadelphia in 1882 when the Home Teaching Society

[1] At the convention of the American Association of Workers for the Blind in 1905, the following resolution was adopted: "That it is the best sense of this convention that the public libraries of the country may more profitably expend efforts and money in the sending out of embossed books than in the maintenance of reading rooms with sighted readers for the blind." Proceedings, p. 51; *Library Journal*, xxx., 1905, p. 800.

[2] In most cases musical works are included in the collections of the libraries. In some there are also writing apparatus and games.

and Free Circulating Library for the Blind was formed, with library activities as one of its main tasks. These two cities were the pioneers in the movement, and for a time were the only ones in the country. After the year 1890, however, libraries for the blind began to increase in number, and they have since multiplied.

At present there are probably not fewer than two score special libraries for the blind in cities of the United States. Some of the larger cities with them are: New York, Brooklyn, Philadelphia, Pittsburgh, Cincinnati, Baltimore, Chicago, St. Louis, Cleveland, Detroit, San Francisco, Milwaukee, Salt Lake City, Kansas City, Los Angeles, Buffalo, Boston, Providence, Louisville, New Orleans, Richmond, Birmingham, Memphis, Jersey City, Rochester, Seattle, Portland (Oregon), Spokane, Trenton, Wilmington, Worcester, Hartford, New Haven, Manchester, Dayton, Grand Rapids, and other cities.[1]

As a rule, attempts to establish departments for the blind in city libraries have met with a cordial response, the library authorities having generally made provision as soon as their attention has been called to the need.[2] In not a few instances the libraries have been started as the result of the interest of some organization, especially a church, a women's club, or other local society. In some of the cities, including New York, Brooklyn, Philadelphia, and Cincinnati, private libraries were first established, later to be taken over by the municipal authorities and incorporated with the regular library systems.[3]

These libraries, being thus municipal enterprises, are

[1] Some of the smaller cities with libraries are: Brookline, Lynn, Fitchburg, New Bedford, Somerville, and Brockton, Massachusetts; Norwalk, Connecticut; Auburn, Watertown, and Niagara, New York; Plainfield, New Jersey; Erie Pennsylvania; Elgin, Illinois; and Santa Monica, California. Several libraries have been discontinued, as those in Newark, Atlanta, Minneapolis, and Denver, it being found that the blind could better be supplied from other sources.

[2] It may be noted that the American Library Association has a committee on work for the blind.

[3] The library in New York was incorporated in 1895, though founded several years before by several blind persons, "to loan books at a nominal cost." Rooms for its use were lent by a church at first. In 1896 it was taken over by the city, and in

maintained for the most part by regular city funds.[1] A few of them, however, including those in New York, Philadelphia, Cincinnati, Chicago, and San Francisco, have been aided from private sources, especially in their early days when they were being started, and before they were made part of the city systems.[2] Certain indirect aid has also been given, notably in the free transportation furnished by street railway companies.[3]

The number of books (that is, separate titles) in raised print in stock and the extent of their circulation among the blind in any particular library depend in great measure upon the size of the city concerned. As a matter of fact, however, only a few libraries have what may be regarded as considerable collections. In the smaller ones there may be scarcely fifty books, while in the very largest there may be one or two thousand. The number of books circulated each year ranges correspondingly from one or two hundred to perhaps twenty or thirty thousand. The number of blind persons affected varies similarly, being in the smaller localities perhaps a score, and in the larger several hundred.[4]

1903; consolidated with the public library system. In Philadelphia the library of the Home Teaching Society and Free Circulating Library for the Blind, which had at first operated from the Bible Society rooms, was in 1898 coördinated with the city system. In Cincinnati there is a special library society organized to further the work. In Cleveland the library was started in connection with a social settlement. In Baltimore the library for the blind is part of the Enoch Pratt Library, in San Francisco of the Phelan Library, and in Pittsburgh of the Carnegie Library. In Lynn, Massachusetts, the library was under the Lynn Historical Society for two years.

[1] In Wilmington, Delaware, the library is a private one with appropriations from the city. In San Francisco and Rochester the libraries operate in connection with associations for the blind.

[2] The largest recipients have been the New York and Philadelphia libraries. Contributions have occasionally amounted to more than a thousand dollars in one year. Now and then a legacy is left for a library.

[3] This is especially true in respect to the libraries in Brooklyn, Cincinnati, and Cleveland.

[4] It may be noted in this connection that at museums and similar institutions facilities are sometimes offered for visits by the blind. In the American Museum of Natural History in New York there is a special department for the blind, opened in 1909, and based upon an endowment of $25,000. Objects are prepared to be felt by the blind, which are occasionally sent out to schools. See Report, 1915, p. 50; Report of United States Commissioner of Education, 1914, i., p. 506. See also *Scientific American*, cx., 1914, p. 153; *American Museum Journal*, Jan., 1914; *Bulletin of Pan-American Union*, xxxviii., 1914, p. 404.

These libraries in general supply reading matter only for the blind in their immediate communities. An increasing number, however, especially those in New York, Philadelphia, Cleveland, Cincinnati, Birmingham, San Francisco, and Seattle, send out books with little restriction as to territory—not only over the State in which they are situated, but to the blind in other States as well.[1] In other cities, as Providence, Baltimore, Pittsburgh, Louisville, Chicago, and Portland, books are sent over the State. Often the larger libraries lend to the smaller.[2]

Libraries Other than City Libraries

In addition to the city libraries, we have other special libraries for the blind in connection with State libraries, the Library of Congress, the schools for the blind, and other agencies. The State library for the blind is a comparatively new undertaking. It has, however, opportunities no less pronounced than those of the city library. In respect to territory covered, the former should have as its task the supplying of the wants of the blind in rural districts or in smaller localities without special libraries. In many cases each may be able to supplement the work of the other.[3]

The first State to create a special department for the blind in its State library was New York in 1896. There are now at least half a score of States with these departments: Alabama, California, Colorado, Indiana, Iowa, New Hampshire, New Jersey, New York, Ohio, and Utah. As a general thing no distinct legislative appropriation is made for the work, the cost being paid out of the regular

[1] In Philadelphia books of the Home Teaching Society and Free Circulating Library for the Blind are deposited with the Free Library of the city. Books belonging to the former are sent over the country generally. Some of the books of this society are also deposited at Pittsburgh.

[2] In many cases there is coöperation with the State schools and the day schools. Occasionally books are sent outside of the United States by city, State, or school libraries.

[3] See Report of New York State School, 1903, p. 34.

funds of the library. In New York a certain sum is expressly authorized by law for the purpose.[1]

Such special libraries are provided for in sections of the State library, usually in the capitol building. Efforts are made to get the names of all the blind in the State; and books are sent out free of charge on request. The number of books kept in stock ranges from less than a hundred to several thousand, with somewhat larger figures for the number put into circulation. The number of persons reached by the largest rarely exceeds a few hundred. Several of these libraries, especially those of New York and California, follow a liberal policy, sending their books no less readily to the blind of other States when called upon.[2]

From the State libraries the way leads to the National library of the country, namely, the Library of Congress at Washington. On its opening in 1897, rooms were set apart for the use of the blind.[3] Though it has in the main served local purposes, its work being mostly confined to the District of Columbia, it is coming to occupy a broader field and to render a really national service in the diffusion of its reading matter.[4]

Among State schools for the blind the policy has been

[1] This is usually $1,600 a year. See Laws, 1899, ch. 569; 1900, ch. 419. By the State department of education a certain sum is allowed to the American Printing House for the Blind for the printing of books.

[2] Some State libraries also supply other libraries temporarily. In Oklahoma books for the blind are circulated from the main normal school.

[3] Special appropriations are made by Congress for the work. On the establishment, and on the activities, of this library, see *Library Journal*, xxxi., 1906, p. 218; *Scribner's Magazine*, xxxiii., 1903, p. 101; *Teacher of the Blind* (England), iii., 1912, p. 566; *Public Libraries*, ii., 1906, p. 308; *Talks, Tales and Public Opinion*, Dec., 1900, March, 1902; *Young People's Weekly*, Dec. 15, 1901; *Ladies' World*, May, 1904; *Christian Endeavor World*, Nov. 15, 1900; *Washington Times*, March 9, 1902; *Washington Life*, April 8, 1905; *Boston Transcript*, March 10, 1905; *New York Evening Post*, March 10, 1905; *Brooklyn Eagle*, March 18, 1906. It has been hoped that a special institution might at some time be established at Washington, to include a bureau of information, and in coöperation with the census bureau, the Smithsonian Institution, and similar bodies. We have seen that a National library for the blind was among the earliest matters considered in which the aid of Congress might be invoked, though the main purpose was to be the embossing of books.

[4] In 1911 was formed a private organization, known as the National Library for the Blind, to send books to the blind of the country generally. It receives some donations. An annual appropriation of $2,500 is made by Congress.

begun, especially of late years, of circulating books throughout the State, both for former pupils and for other adult blind persons. The schools are thus becoming more and more distributing centers for books, which may, as already pointed out, be considered as one phase of their work of reaching the blind at large, or as a part of a general scheme of making their educational resources available to the maximum number of persons. The practice depends in considerable part on the accessibility of other collections. At present the larger number of the schools circulate books outside their walls to a greater or less extent, the school to inaugurate this special work being the Perkins Institution, which began the policy in 1842, early in its career. In certain schools books are sent only to former pupils, in others to all of the blind of the State who will use them, and in a few to the blind generally without restrictions of any kind.[1] As with the State libraries, there is not often special legislative authorization for this procedure, though in a few States, as Utah, it is a required duty of the school, and in a few others, as Illinois and Wisconsin, there have been distinct appropriations for the purpose. The number of blind persons reached by the school libraries is nearer that reached by the State libraries than that reached by the city libraries, ranging from a score to several hundred. The number of books in stock varies from a few hundred to several thousand, these figures also representing in a measure the extent of the circulation of the books.

Another agency concerned with the distribution of books for the blind consists of the industrial establishments for

[1] In schools in the following States books are sent outside, either to former pupils only or to the blind of the State generally: Illinois, Iowa Kansas, Louisiana, Maryland, Massachusetts (Perkins Institution), Minnesota, Missouri, Montana, Nebraska, New Mexico, New York (State School), North Carolina, North Dakota, Ohio, Oregon, Pennsylvania (Pennsylvania Institution and Western Pennsylvania Institution), South Carolina, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wisconsin. In the case of the Perkins Institution, the Pennsylvania Institution, and the Wisconsin School there is no geographical limitation as to the sending out of books. On the creation of the Howe Press at the Perkins Institution in 1881 efforts were made to place books in libraries of cities in the New England States. This library is still the headquarters for such States.

the blind in several of the States. They perform in this respect a service similar to that of the schools, having possibilities in certain respects analogous to those of the latter. In three States the circulation of books radiates from these centers, as a function required by the law: Maine, Michigan, and Wisconsin.[1] Though in possession of a smaller supply of books, the number of readers served and the number of books in circulation do not greatly differ from the corresponding numbers in respect to the schools. There are, finally, several small libraries in connection with certain of the homes for the blind, publishing houses for the blind, and similar institutions.[2]

[1] Laws, 1893, ch. 290; Stat., 1917, § 570. This is called the "State Circulating Library for the Blind."

[2] On the number of books in libraries for the blind, see *Outlook for the Blind*, iv., 1911, p. 197 (reprint from report of the American Library Association); *Bulletin of American Library Association*, ix., 1915, p. 231; New York Public Library, "Library Facilities for the Blind in the United States," 1916; American Encyclopedia of Ophthalmology, 1916, i., pp. 259, 270; ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America." 1916.

NOTE TO CHAPTER XXVIII.—On library work for the blind, see *Public Libraries*, iv., 1899, p. 171; ix., 1904, p. 147; *Library Journal*, xxiii., 1898 (supp.), pp. 23, 148; xxix., 1904, p. 236; xxx., 1905, p. 269; xxxi., 1906, pp. 8, 78, 224; xxxiv., 1909, p. 115; *Bulletin of American Library Association*, ii., 1908, p. 216; iv., 1910, p. 648; v., 1911, p. 97; viii., 1914, p. 110; Proceedings of American Library Association, 1906, pp. 78, 224; 1907, p. 39; *Scribner's Magazine*, xi., 1875, p. 136; *Charities and the Commons*, xv., 1906, p. 641; *Outlook for the Blind*, i., 1908, p. 139; Proceedings of American Association of Workers for the Blind, 1905, p. 41; 1907, p. 51; Proceedings of American Association of Instructors of the Blind, 1915, p. 15; Proceedings of National Education Association, 1916, p. 821; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 38; Bulletin of Kansas State Charitable Institutions, Feb., 1910, iv., p. 13; Quarterly Representing Minnesota Educational, Philanthropic, Correctional, and Penal Institutions, viii., 1908, 1, Aug., p. 15; Report of Perkins Institution, 1898, p. 26; Minnesota School. 1908, p. 31; E. E. Allen, "Departments for the Blind in Free Libraries" (read before library clubs, March 18, 1899); R. C. Moon, "Books and Libraries for the Blind" (read before Pennsylvania Library Club and New Jersey Library Association), 1905; A. E. Bostwick, "The American Public Library." 1910, p. 316; M. C. Chamberlain, "Manual of Library Economy," 1915, ch. 30; *Civic News*, Cincinnati, March, 1913; *Talks, Tales, and Public Opinion*, June, 1902, June, 1903; *Voices from Darkland*, March, 1913; *Philadelphia North American*, Oct. 6, 1901; *Brooklyn Eagle*, March 2, 1902; *New York Herald*, Oct. 29, 1905; *New York Tribune*, May 5, 1912; *San Francisco Bulletin*, Jan. 5, 1918; *News Notes of California Libraries*, April, 1918.

CHAPTER XXIX

HOME TEACHING FOR THE BLIND

Purposes and Scope of Home Teaching

Efforts to bring intellectual benefit to the blind are not likely to be long in leading to developments beyond the providing of reading matter and its diffusion in libraries. To render the fullest advantage, one further step is found necessary. This is the bearing of means of mental uplift into the homes of the blind—a process that is called home teaching or home instruction.

In one sense, home teaching is little more than instruction for the blind projected on a scale to include adults. It may be considered a manifestation of the view of education which is being increasingly held, namely, that this is something not to be confined to youth only, but something to be offered, as far as practicable, to all the people. Yet home teaching for the blind is of a quite distinct character from all other forms of instruction. It embraces possibilities that are not given to other agencies, reaching out as it does for persons are who not accessible to them. It affords relief to a class greatly in need of mental stimulus and growth—evidenced by the large proportion in adult life, and especially in advanced years, who have not the ability nor the energy to learn to read raised print. In the intimate, sympathetic touch, and in the friendly interest and counsel, supplied in the person of the home teacher, there is peculiar benefit. In the cheer and inspiration brought, spiritual ministrations are added to intellectual, of the need of which only the sightless may know. But in this form of work there is something more still. The hands of the blind may be taught various tasks, which may prove not only an en-

joyable pastime, but useful toil as well. In some cases these manual efforts may be turned to material account. Certain marketable articles may be fabricated, to be placed on sale by some suitable agency, the proceeds therefrom constituting not negligible aid. Finally, home teaching, though possible for all classes of the blind, is particularly adapted for those—comprising such a large proportion of all—who have passed the vigorous years of life, and especially so for women, who are naturally much confined to their homes and can go about but little.

Home instruction is not to be conducted by direct personal visits alone. These are to be followed and supplemented, as needs are brought to light, by correspondence and other suitable measures. As a part of the work, efforts may be put forth to look up blind persons generally, with the possible extension of appropriate aid where called for.

Thus home teaching soon passes from the affording of intellectual instruction alone, and takes on larger bearings. It in fact may become something not a little different from the original undertaking; and may perhaps more aptly be considered as "field work" for the blind. In its expanded scope, it is practically without limits. The opportunities to be of service, whether as "home teacher" or as "friendly visitor," are perhaps as great here as can be found anywhere else in the range of human usefulness.[1]

For the practical administration and execution of home teaching, several agencies are available.[2] As a private undertaking, it is likely to be one of the main activities of an association for the blind, though it may be conducted under

[1] "It is not too much to say that in all our educational activities, there is no service more directly helpful, where there is direct need of help, than that rendered by our instructors of the adult blind, and that no educational work supported by the State gives a larger return in social and economic benefits relative to its expense." Report of Rhode Island Board of Education, 1914, p. 60. The work is such a "notable success" that it is "now regarded as a permanent educational agency of the State." *Ibid.*, 1907, p. 26.

[2] In the selection of teachers for this work, the blind themselves are often considered the most desirable, their blindness being an added qualification. They can often serve by their example to stimulate and encourage those whom they visit. The financial compensation thus afforded is, incidentally, also of no small advantage.

the auspices of some other organization. If a public matter, it may be directed as an independent affair, by the schools for the blind in addition to their regular tasks, by libraries for the blind, by State commissions for the blind, by State boards of education, or other State departments or bureaus. Probably the most satisfactory plan is that in connection with a State commission, as a part of its specific work, since a body of this kind has peculiar opportunities of coming into contact with all the blind and of discovering their several needs, to it being given the task of ministering to the blind generally. In lieu of this, perhaps the most feasible agency is the State department of education, which is in charge of the several public educational activities; or a library for the blind, which is already in relation to a considerable extent with the adult blind.

Development of Formal Home Teaching

There have no doubt always been instances in the United States of the instruction of the blind in their homes, attempted by friends or relatives of favored ones. As an organized undertaking, home teaching, like so many of the activities for the blind, is a product of the twentieth century. As a formal proceeding, it dates from the year 1882, when the Pennsylvania Home Teaching Society and Free Circulating Library was organized in Philadelphia, and when a women's club of Chicago commenced instruction to a limited extent in the homes of the blind as part of its work. Both of these enterprises were of private nature, though in the former case public recognition was given in 1905 in the form of financial aid.[1] The first State to provide for home teaching more or less directly as a public function was Connecticut, when in 1893 it created its special board of education for the blind, a specific activity being instruction in the homes of the blind.

For the first distinct legal provision, however, we turn

[1] See Laws of Pennsylvania, 1909, ch. 498.

to Massachusetts. Its action was taken in 1899 when a resolution was adopted by the legislature, making it the duty of the State board of education "to inquire into the feasibility of the instruction of the adult blind in their homes, and to report with recommendations." [1] The recommendations presented were favorable, and the next year an appropriation was made for the purpose of conducting the work, entrusted at first to the Perkins Institution, but in 1916 transferred to the State commission.

Rhode Island followed in 1904 when the State board of education was authorized to provide for home instruction of the adult blind.[2] In 1905 when a private association for the blind was organized in New York City, and the following year in Cleveland, home teaching was given a prominent place in their programs, as was done by most of the associations which were later formed. In 1907 Delaware enacted a law providing for home instruction, which after two years was placed in the hands of the State commission.[3] In 1907 also, on the opening of a workshop for the blind in Maine, to which public funds were allowed, home instruction was made one of its duties. In 1908 when a public shop was established in Maryland, a certain amount of instruction in the home was prescribed, this having been undertaken to some extent shortly before by private enterprise, chiefly under the direction of the school. In 1908 also, on the creation of commissions for the blind in New Jersey and Ohio, home teaching was constituted one of their functions, as was the case with most of the commissions or similar bodies subsequently established. In 1911 Colorado [4] and Illinois [5] fell into line, the work in the former State being placed under the State department of education, with the coöperation of the State school and

[1] Laws, 1900, Res., ch. 13; 1900, ch. 430; 1902, ch. 98; 1902, ch. 297; 1904, ch. 20; 1916, Res., ch. 201; 1918, ch. 55; Rev. Laws, Supp., 1908, p. 424.

[2] Laws, 1904, p. 159; 1908, ch. 1526; 1911, p. 41; Gen. Laws, 1909, p. 266.

[3] Laws, 1907, ch. 142. For the first two years direction was in the hands of the Associate Justices of the Supreme Court.

[4] Laws, 1911, p. 3; Ann. Stat., 1912, pp. 2207, 2208.

[5] Laws, 1911, p. 17; 1915, p. 227; Ann. Stat., 1913, § 1053.

workshop, and in the latter under the State board of administration, as the department of visitation and instruction of the adult blind.[1]

Home Teaching Incidental to the Work of Other Agencies

In addition to the home teaching which is carried on under more or less specially designated agencies, the work has been forwarded incidentally by other organizations, public and private. Schools for the blind in particular have begun to see the possibilities of home teaching, this often being one of the first manifestations of their concern in the adult blind; and in the absence of a State commission or other body for the prosecution of the work, have in certain instances felt themselves called upon to make some effort. A small number, as those in California, North Carolina, and Wisconsin, have now, on their own initiative, taken up the task of instruction in the home to a greater or less extent, while others maintain correspondence courses of some kind, which may make a considerably close approach to home teaching. The "field work" of certain schools, to which we have already called attention, is in many ways but an enlargement of this work. Besides the commissions for the blind, among the duties of which home teaching is specifically authorized, we may well assume that in all other commissions it is a hardly less clearly recognized function. In a number of associations for the blind likewise some form of home instruction is engaged in, this being, as we have noticed, a conspicuous feature in the work of most of them. In some of the libraries for the blind also there is afforded more or less instruction in the home in connection

[1] Most of these agencies for home teaching were secured after efforts had been put forward in this direction, especially on the part of the blind themselves, or of some general organization, often a women's club. In Massachusetts the measures were largely promoted through the activities of certain graduates of the Perkins Institution, who had been interested for a year or two before the enactment of the law, together with other bodies. Action by legislatures has sometimes been by unanimous vote.

with the distribution of reading matter, with the employment in certain cases of special teachers. This is notably true of the libraries in Cincinnati, New York, Brooklyn, San Francisco, and a few other cities, of the Library of Congress at Washington, and of the State library of California. In Brooklyn a considerable amount of home teaching is conducted by the two leading charitable organizations as a part of their special work for the blind. Home teaching is likewise carried on to some extent by certain other organizations, particularly women's clubs.

Present Organization and Extent of Home Teaching

Instruction of the blind in their homes as a distinct undertaking, publicly recognized, either as an officially constituted organization, or with the more or less direct financial endorsement of the state, is now found in about one-third of the Commonwealths. Its conduct is assigned to several agencies. In Connecticut, Delaware, Illinois, Indiana, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Tennessee, and Utah it is directed by the State commission or a similar body; in Colorado and Rhode Island, by the State board of education, with assistance in the former State from the State school and workshop; in Maryland, largely with private funds under the direction of the school, with assistance from the workshop; and in Pennsylvania, under a private society with a subsidy from the State. When distinct appropriations are made by the legislature for the work, the amount ranges from one to eight thousand dollars a year.[1] In home instruction by schools attention is usually given only as an extension of their work, without express statutory authorization. This is also in the main the case with libraries. When the instruction is

[1] In Colorado the amount is $1,000; in Rhode Island, $5,000; in Pennsylvania, $4,000; and in Illinois, $7,500. There has usually been a gradual increase in the course of the years.

entirely a private undertaking, the work is carried on for the most part by special local associations, and at times by some more general organization.[1] Where there is more than one agency operating in a particular community, concert is usually effected, with perhaps a division of the field.

The total number of blind persons affected by organized home teaching in the United States is probably not less than four thousand. The number in particular communities varies considerably, the blind in the cities being usually the most favored. So far as may be discovered, the proportion of the blind over twenty years of age benefiting ranges in the different States from about one-tenth to one-third. If women only are considered, the proportions are correspondingly increased.[2] The number of instructors employed depends for the most part upon the number of the blind to be reached, the average ratio being perhaps one teacher to every one hundred persons taught. The smallest number of teachers in a particular organization is one or two, and the largest eight or ten. The number of visits made to the homes of the blind, or the number of lessons personally given, is in general one or two a month, with perhaps the number doubled at the beginning. There is, moreover, occasional mail matter sent out, besides special correspondence for individual cases. Most of the home teachers, it may be added, are themselves blind, the law often directing preference to them.[3]

Practically all the blind reached by home teaching are in adult life, the average age being perhaps not under fifty years. The large majority of them are women. Instruction is given in reading in raised print, and, in addition, where possible, in domestic economy, and in a few handi-

[1] Work under the direction of the New York Commission is sometimes paid for by local associations.

[2] In Pennsylvania there have been over 1,600 persons given instruction since the beginning of the work, in Massachusetts a number almost as great, and in Rhode Island over 200. Of 1,547 blind persons over 20 years of age in New Jersey, 530, or 34.3 per cent, are said to be "teachable."

[3] Special favors are sometimes extended to home teachers in their travels, often in the form of reduced fares on the railways.

crafts. Handwork is taught as far as circumstances permit. The main occupation is sewing or needle work, including knitting or weaving; while guidance is offered in certain other industries. In some instances material is supplied for the making of marketable articles; and efforts are put forth for their disposal, the blind being allowed the proceeds of whatever sales are effected.[1]

[1] The industrial aspects of home teaching are considered in Chapters XXXV, XXXVI.

NOTE TO CHAPTER XXIX.—On home teaching for the blind, see Report of Rhode Island Board of Education, 1916, p. 32; Report of Massachusetts Commission for the Blind, 1917, p. 25; Proceedings of American Association of Workers for the Blind, 1907, pp. 59, 63; 1911, p. 32; Report of Massachusetts Board of Education, 1900, p. 509 (report of special committee); 1901, p. 359; 1902, p. 347; 1908, p. 274; 1909, p. 276; Massachusetts House Bill no. 1,364 (Report on Feasibility of Instructing the Adult Blind at Their Own Homes), 1900; Report of Illinois Department of Visitation and Instruction of the Adult Blind, 1912, p. 5; Report of United States Commissioner of Education, 1915, i., p. 509; Two Addresses of M. Anagnos, "The Education of the Blind in the United States," 1907, p. 22; Ohio Bulletin of Charities and Correction, xvi., 1910, 1, Feb., p. 27; Report of Maryland School, 1907, p. 22; 1909, p. 26; Perkins Institution, 1901, p. 21; 1907, p. 70; Oregon School, 1911, p. 11; 1913, p. 8; Ohio School, 1907, p. 24; New York State School, 1902, p. 30; Iowa School, 1916, p. 6; Pennsylvania Institution, 1916, p. 45; Proceedings of New York State Conference of Charities and Correction, 1914, p. 69; *Outlook for the Blind*, i., 1908, p. 146; ix., 1916, p. 121; *Charities Review*, xii., 1900, p. 194; *Charities and the Commons*, xv., 1906, p. 613; *Problem*, iv., 1903, p. 95; *Voices from Darkland*, June, 1916; *Boston Transcript*, Feb. 25, 1903; June 9, 1906; *Chicago Tribune*, Dec. 14, 1900; *New York Press*, Dec. 29, 1907.

PART V

MATERIAL PROVISION FOR THE BLIND

CHAPTER XXX

HOMES FOR THE BLIND: HOMES FOR ADULTS

Possible Forms of Material Relief for the Blind

From the various provisions which have been made for the intellectual benefit of the blind—the special schools which are offered to the young, and the several agencies which minister to the adult—we turn to provisions of quite different character. We come now to the consideration of the measures that have been adopted for the material assistance of the blind—measures designed to a greater or less extent to meet their physical wants.

In an earlier chapter we have dwelt at length upon the economic condition of the blind. We have seen what proportion are able to support themselves. We have also seen upon what means the remainder, consisting of the greater number, have to depend for their subsistence. In the next few chapters we are to examine the steps that have been taken of a systematic character to render appropriate relief. Material aid, it is found, may be extended in three forms. First, special homes may be established, where the blind may be maintained at public or at private expense. Second, special industrial establishments may be brought into being, or other industrial assistance afforded, for whatever portion of the blind may be enabled to a greater or less extent to contribute to their self-support. Third, a system of pensions may be devised by which regular public grants are allowed to the blind, or indemnities of some sort may be provided for the loss of sight. There is, indeed, a fourth method of treating the material wants of the blind, namely, a response by the solicited to appeals in the nature of mendicancy. As to the public giving of alms it need but

be said that the practice, widely diffused as it is, is of a character to have only an ill effect on the recipient, while amounting to no effective relief, and opening a rich field to impostors. In fact, the procedure is so undesirable and objectionable on general principles that to mention it is virtually to condemn it.[1]

Object of Homes for the Adult Blind

In this chapter we shall devote our attention to homes for the adult blind, and in the next to homes for certain blind children. Though special homes for adults may seem entitled to initial consideration, yet as a practical means for ameliorating their condition as a whole, they are found at the outset to run counter to the now prevailing attitude of society with respect to such form of relief for any portion of the population—namely, that special institutions are *per se* objectionable, and are to be accepted only as a last resort and when no other provision is at hand. Particular establishments, which are essentially little more than asylums, and which involve the continued segregation of the inmates as a separate colony of human beings, based upon a common infirmity, are today looked upon with disfavor, and are held to be mainly given over for the reception of mental defectives and of criminals. For the remaining elements of the population, including the blind as a class, to whom material aid is to be extended, relief is to be looked for by different means.[2]

[1] On the subject of begging by the blind, see Report of Delaware Commission for the Blind, 1915, p. 8; Report of Maryland School, 1903, p. 71; Pennsylvania Institution, 1909, p. 25; Proceedings of Pennsylvania Conference of Charities and Correction, 1911, p. 130; Proceedings of Minnesota Conference of Charities and Correction, 1899, p. 58; Florina Lasker, "Care and Treatment of the Jewish Blind in the City of New York," 1918, pp. 62, 92.

[2] A proposal has been made of occupational colonies, especially for the partially blind, with voluntary residence, and with the carrying on of farming as far as possible. Persons who are received are to be tried out, those giving promise of industrial capacity along other lines being transferred elsewhere, and those not giving such promise remaining permanently. See Report of Massachusetts Commission for the Blind, 1915, p. 10. See also Reports of Ten-year Survey Committee on the Work of the Massachusetts Commission, 1916, p. 37; Report of Supervisor of Ad-

With regard to a certain number of the blind, however, the theoretical objections to special homes may not have application. For the aged and infirm among them, particularly women, who have no homes of their own or friends to care for them, special institutions or retreats exist as their only hope—and indeed for some cases are positively called for. Such may well be provided in whatever communities there are a sufficient number of blind persons whose needs can be met only in this manner.[1] No inconsiderable field is opened up in the matter for private philanthropy, and perhaps also for public action, though the duty of the state may in part be discharged by aid to private institutions already called into existence.

Present Extent and Organization of Homes

The first homes for the blind to be established were in the year 1868 in three different cities—the Pennsylvania Industrial Home for Blind Women in Philadelphia,[2] the Home of the Society for the Relief of the Destitute Blind in New York City (Manhattan),[3] and the Blind Girls' Home

ministration Relative to the Advisability of Providing Pensions for the Needy Blind, Massachusetts, 1917, Senate no. 326; Massachusetts Commission, Statement I, Pensions or Relief, 1917.

[1] Though in certain cases blind persons may be placed in general homes for the aged and infirm, such homes are for the most part found to discriminate against them, chiefly because of the greater care and responsibility believed to be incurred in respect to them. Most general homes, furthermore, have waiting lists of considerable lengths. Homes for incurables do not as a rule admit the blind. See *Outlook for the Blind*, ii., 1908, p. 37. The few homes for the deaf frequently have one or more blind persons among their inmates. In one or two schools for the blind there have been allowed to remain certain blind persons when no other means of support has been available for them. In public almshouses there are now and then special quarters for the blind. Of 127 Jewish blind persons in New York City (Manhattan and Bronx) over 60 years of age, 47, or 37.0 per cent, are in homes for the aged.

[2] In 1851 efforts were put forth on the part of the Pennsylvania Institution to secure a special retreat, to be known as the "Home for the Indigent Blind." It was hoped that the property of the "Wills Hospital for the Indigent Blind and Lame," founded in Philadelphia in 1834, might be disposed of for the purpose. The present home resulted in part from the unsuccessful efforts in 1865 of several blind girls to conduct a store.

[3] In 1871, after the failure of several forms of industrial provision in New York, a temporary home was established, with about 35 inmates, to which some donations were made. About the same time there was consideration of a public home or retreat

in St. Louis.[1] For nearly a score of years these remained the only homes for the blind in the country, though after this time they were established in fairly rapid succession. In 1884 was opened the Retreat for Blind Mutes and Aged and Infirm Blind in Philadelphia; in 1890, St. Joseph's Home for the Blind in Jersey City and the Home of Our Lady of Perpetual Help in Bayonne, New Jersey; in 1895, St. Joseph's Asylum for Blind Girls and the Home for the Blind of the Church Charity Foundation, both in New York City (the former in Staten Island and the latter in Brooklyn); in 1899, the Home for the Blind in Washington; in 1901, the Blind Girls' Home in Nashville; in 1903, the Clovernook Home for the Blind near Cincinnati; in 1905, the Memorial Home for the Blind in Worcester, Massachusetts; in 1910, the Chapin Memorial Home for the Aged Blind in Philadelphia; and in 1915, the Iowa Home for Sightless Women in Des Moines.[2]

There are thus at present in the United States fourteen special homes for the adult blind, as distinguished from industrial establishments, that is, homes in which work is not necessarily required or expected from the inmates in return for their support, or which have not been organized primarily for industrial purposes. The homes are found in nine States, chiefly in the East and the Middle West:

for the indigent blind of the State, especially for those in hospitals, the cost of the inmates to be borne in part by the several counties. In 1873 a home of this kind was incorporated, though it failed to materialize. Laws, p. 1179. In 1881 a commission, was created to report on the advisability of establishing a State home, and if necessary to purchase a site therefor. Laws, ch. 85. In 1883 a resolve of a similar tenor was adopted, the State board of charities being directed to ascertain the number and condition of the adult blind, and to report on the feasibility of a special home. Senate Resolution, April 24, 1883. In both instances a home was advised against, such being regarded as inexpedient, because of the "unjust partiality" which would thus be shown to the blind, and because of the expense which would be involved. See Senate Documents, 1884, no. 6; Report of New York State Board of Charities, 1884, p. 123; Special Report of New York State Board of Charities as . . . to the Establishment of a State Asylum for the Indigent Blind, 1884.

[1] This home was brought about through the efforts of the "Girls' Industrial Band," composed of alumnæ of the Missouri School. In 1884 it was taken over by the Young Women's Christian Association. See Report of Missouri School, 1876, p. 14; Brief History of Blind Girls' Home of St. Louis, 1902.

[2] In several instances the blind themselves, especially blind women, have been instrumental in securing the homes.

Massachusetts, New York, New Jersey, Pennsylvania, District of Columbia, Ohio, Tennessee, Missouri, and Ohio.[1] In New York and Pennsylvania each there are three.[2]

All these homes are private affairs, either under the control of some religious body, or under the direction of an association for the blind or of a society organized for the express purpose of conducting a home.[3] Most are in the hands of special boards of trustees, managers, or directors, numbering from five or seven to several times as many.[4] The state is seldom directly concerned in their management, though they are as a general thing subject to visitation and inspection by boards of charities. Now and then there are grants of public money for the benefit of a home, these being more often from the city or county than from the State, and usually for the cost of public charges.[5]

[1] At Ponce, Porto Rico, is the Insular Asylum for the Blind, founded in 1902, under the director of charities. The number of inmates is limited to 150, apportioned among the municipal districts. Laws, 1902, p. 59; Compilation of Revised Statutes and Codes, 1913, p. 41.

[2] Efforts are in progress to establish other homes for the blind, especially for blind women, in Pittsburgh, Cleveland, Indianapolis, Raleigh, and elsewhere. In Detroit a special home has been made possible, the charter of the city being amended to allow the municipality to provide asylums for the insane and for the blind. Laws of Michigan, 1855, p. 221.

[3] All the homes under denominational auspices belong to the Roman Catholic Church, except that of the Church Charity Foundation of Long Island, which is in the hands of the Protestant Episcopal Church. St. Joseph's Asylum for Blind Girls is a branch of the Mission of the Immaculate Virgin for the Protection of Homeless and Destitute Children, and St. Joseph's Home for the Blind is directed by the Sisters of St. Joseph of Peace. The home in St. Louis is under the auspices of the Young Women's Christian Association, and that in Nashville under the auspices of the King's Daughters. The homes in the District of Columbia and Massachusetts are conducted as part of the work of associations for the blind. The Pennsylvania Retreat for Blind Mutes and Aged and Infirm Blind is a department of the Pennsylvania Working Home for Blind Men. In a few instances there are auxiliary committees of ladies. In certain of the organizations membership is open on the payment of the prescribed fees, which vary from $5 to $100 for members, life members, patrons, etc.

[4] The number for the home at Cincinnati is 3; for that at Worcester and at Des Moines, 7; for one in Philadelphia (Chapin Memorial), 11; for two in New York (Manhattan and Brooklyn), 15; for one in Philadelphia (Industrial Home for Blind Women), 16; for that in St. Louis, 24; and for that in Washington, 35.

[5] States which have assisted directly are Pennsylvania and Tennessee. See Laws of Pennsylvania, 1869, p. 654; 1872, p. 384; 1874, p. 52; 1885, p. 283; Laws of Tennessee, 1903, ch. 241. The chief cities which have granted funds for inmates are New York and Washington, these sometimes paying for as many as one-third.

For their support in general the homes have to depend almost altogether upon voluntary contributions, which amount on the average annually to a few thousand dollars. Occasionally they are the beneficiaries of legacies; and two or three have endowments of some size. In the case of homes under the control of special societies the fees and dues of the members are often of material assistance.[1]

The value of all the property of the homes is probably close to half a million dollars.[2] The total annual expenses for their upkeep amount to a little over one hundred thousand dollars, or perhaps near $250 for each inmate.

The homes are generally for the aged and infirm, especially for such as are also homeless and destitute.[3] Most are exclusively for women, a few allowing a limited number of men. Admission is generally restricted to a particular territory, though in a few instances persons may be received from outside this if there are sufficient accommodations. In the case of homes directly controlled by a religious body, preference is usually given to those embracing its faith. In many of the homes an admission fee is expected, most often of $300.[4] As a rule it is required that all property of the inmates be assigned to the home, or that a certain amount therefrom be regularly yielded to it.

The total number of the blind in these special homes in

[1] In some cases gifts have been fairly large. This is notably true of one home in New York City (Society for the Relief of the Destitute Blind), which has an endowment of about $400,000. Other favored homes, though to a much less extent, are those in Philadelphia, Washington, Cincinnati, and St. Louis. In a few instances a building has also been given, and in one or two land. Nearly all the homes have received favors of various kinds from the public. A single fair has occasionally netted as much as several thousand dollars. In some instances mite boxes have won a generous response from the public. In several cases the blind have aided in securing funds.

[2] The greater part of this belongs to two or three homes.

[3] Only a few have specific age limitations. The Chapin Memorial Home takes none under 60, and the Industrial Home for Blind Women of Philadelphia prefers none over 50. Some homes decline to receive confirmed invalids. The Chapin Home is for "respectable blind persons who by reason of age or infirmity are unable to earn their own livelihood and who otherwise would be without a home." The St. Joseph's Home of New York is "for the benefit of blind women who have no friends to care for them or means properly to support them." Several of the homes have one or more blind-deaf inmates.

[4] This may sometimes be slightly higher for persons of advanced age.

the United States is somewhat in excess of four hundred and fifty.[1] Of these probably nine-tenths are women. The number of inmates in particular homes varies from ten or less to nearly one hundred, the average being about twenty-five or thirty.[2]

Though in most homes no work may be required in return for the support of the inmates, yet into the greater number there have been introduced several suitable industries, the purpose of which is to provide occupation, as well as to afford a modicum of financial aid to those so engaged.[3] In homes in which there may be some young blind persons, there is usually a certain amount of instruction also given.[4]

[1] In some of the industrial homes to be considered in later chapters, there are a certain proportion of the inmates who do little or no real work, and who in fact are in a "home for the blind." Such are mainly the aged and the infirm. In Illinois a separate home for this class has been asked for. Report of Illinois Board of Charities, 1908, p. 226.

[2] Several of the homes are crowded, and some have long waiting lists.

[3] In practically all the homes industrial work is carried on to a considerable extent, especially in those at Cincinnati, Philadelphia (Industrial Home for Blind Women), Washington, Worcester, New York City (Staten Island and Manhattan), Jersey City, Bayonne, St. Louis, Nashville, and Des Moines. The main industries afforded are sewing, weaving, and knitting, with some chair caning and basketry. Sales are sometimes considerable, now and then comparing not unfavorably with those of the regular industrial establishments.

[4] For table in respect to homes for the blind, see Appendix C.

NOTE TO CHAPTER XXX.—On homes for the adult blind, see Census Reports "Benevolent Institutions," 1915; Report of Massachusetts Board of Charity, 1865, p. lii.; Report of Pennsylvania Board of Public Charities, 1871, pp. xx., liii.; Report of Trustees of Kansas Charitable Institutions, 1888, p. 162; Proceedings of Minnesota Conference of Charities and Correction, 1899, p. 58; Indiana Bulletin of Charities and Correction, June, 1897, p. 34; Ohio Bulletin of Charities and Correction, vii., 1902, 2, June, p. 32; xvii., 1911, 2, July, p. 72; Report of Royal Commission on the Blind, Deaf and Dumb, etc. (England), 1889, p. 419; Report of Ohio School, 1882, p. 14; 1893, p. 137 (5th reunion of former pupils, 1890); 1895, pp. 104, 113 (6th reunion of former pupils); 1900, p. 95 (7th reunion of former pupils); 1902, p. 8; Pennsylvania Institution, 1881, p. 16; Minnesota School, 1912, p. 45; Proceedings of American Association of Instructors of the Blind, 1894, p. 65; Proceedings of American Association of Workers for the Blind, 1905, p. 27; 1907, pp. 108, 114; 1911, p. 53; J. J. Dow, "Homes for Blind Women," 1912; J. W. Welch, "Abilities and Achievements of the Blind," 1905, pp. 203, 359, 425; *Problem*, iv., 1903, p. 13; *Charities Review*, xii., 1901, p. 583; *Catholic World*, lxvii., 1898, p. 507; *Orphans' Messenger and Advocate of the Blind* (St. Joseph's Home), Jan., 1900, Jan., 1901; *Voices from Darkland*, March, June, 1916; *Ohio Harp*, vi., 1909, p. 29; *Nashville Banner*, April 6, 1905.

CHAPTER XXXI

HOMES FOR THE BLIND: HOMES FOR BLIND CHILDREN

Object of Homes for Blind Children

The question of homes for blind children is in some degree related to the educational interests of the blind, and its treatment here may seem to be a temporary departure from the concerns of the adult blind. Yet as such provision is in its nature largely material, and as it is to a considerable extent similar to the matter of homes for the adult blind, it may perhaps properly be considered in this place.

For a certain proportion of blind children under school age, principally blind infants, there has in some quarters been felt to be a need for special homes. Such children are in the main those without homes of their own, or those whose home environment is not of a proper character, or who cannot receive at home the attention demanded by them. Objection to the plan lies chiefly in the conviction that it is not a wise policy to separate children from their own homes—an objection which we have already had occasion to note in our discussion regarding day schools. Disapproval may also arise on a ground, which is being increasingly regarded in child welfare work, namely, that if children must be taken from their homes, it is better to have them "boarded out" among families qualified to care for them than to have them congregated in one institution. Yet the force of such arguments is in considerable part lost when applied to the treatment of blind babies; and if there is justification for special homes for any children, there is added justification with respect to those for children who are blind. With very young blind children there is required particular care, often of a medical nature, which may be

in large part wanting in the individual home. Not infrequently blind children are discovered living in very untoward surroundings, especially where the parents are poor and ignorant; and in such cases they may be subject to positive neglect.[1]

Homes for blind children have in fact a much larger function than that of mere child-caring establishments. Properly conceived, they combine three features: (1) a nursery for the care and development of blind babies; (2) a hospital for the treatment of various complaints, especially of those affecting the eye, which in some cases may result in complete or partial restoration of sight; and (3) a kindergarten department, in which a certain amount of instruction may be afforded to the older children.

Present Extent and Organization of Homes

The first home for blind children to be established was at Hartford, Connecticut, in 1893, as a department of the Connecticut Institute for the Blind, later being removed to Farmington. It was followed by the Boston Nursery for Blind Babies in 1901 (now at Roxbury); the Dyker Heights Home and Kindergarten for Blind Children in Brooklyn, New York, in 1904; the Brooklyn Home for Blind, Crippled, and Defective Children in 1907; the Catholic Institute for the Blind in New York City (Bronx) in 1909; the Arthur Home and Kindergarten for the Blind at Summit, New Jersey, in 1910; and the Monroe Home and Hospital for Blind Babies at Monroe, Michigan, in 1913.[2]

There are thus seven special homes for blind children in

[1] In certain instances day nurseries, or crèches, may also be desirable. A part of the work for young blind children, it is to be remembered, is done by the kindergarten departments of the schools, though of course children below the prescribed age cannot be received. A not unimportant work of a temporary character is also done by eye and ear infirmaries of some of the larger cities. In a few instances blind children are received by orphanages and other child-caring institutions.

[2] Most of the homes were founded as the result of interest on the part of certain philanthropic women.

the United States, all but one being in the East. They are found in the States of Massachusetts, Connecticut, New York, New Jersey, and Michigan, there being three in New York. The homes are all private affairs, their immediate direction being vested in boards of trustees. Two of the homes in New York are under the auspices of the Roman Catholic Church.[1] The remaining home in New York and the homes in New Jersey and Michigan are branches of the International Sunshine Society. The home in Connecticut is a part of the school for the blind. The home in Massachusetts is in the hands of a society organized for the purpose.[2] In most cases the homes are inspected by the State board of charities or a similar body, in Connecticut the inspection being made by the special board of education for the blind. The homes in New York, New Jersey, and Michigan are regarded as in part educational institutions, with appropriate educational supervision.

The homes are to some extent supported by private contributions, which in certain cases amount to several thousand dollars a year.[3] But though nominally private institutions, they are aided in greater or less measure by public subsidies. This is particularly the case with those having an educational character, in some of which much the greater number of the inmates are public charges. The annual cost of maintenance of all the homes is not far from $80,000, or not much below $400 for each child. The value of all the plants is over two hundred thousand dollars.

The number of children in a single home varies from half a score in the smallest to over half a hundred in the

[1] The Brooklyn Home for Blind, Crippled, and Defective Children, as its name implies, includes other classes as well.

[2] The number of trustees of the Boston Nursery is 12. Annual dues of associate members with respect to it are $1; of sustaining members, $5; of life members, $25; and of memorial life members, $100.

[3] The homes which have benefited most from private donations are those in Massachusetts, New York (Dyker Heights), and New Jersey. The two first named in particular are further assisted by endowment funds. Aid to homes is sometimes received by means of entertainments. Not a little has come in certain instances from mite box collections.

largest. In all there are perhaps somewhat more than two hundred. The age limit to which children are permitted to remain is usually five, six, or eight years, or even higher in some cases, especially where an educational recognition is given.[1] There is sometimes a formal requirement of pay, even in part, from those able, though in practice such is seldom charged.[2] A portion of the inmates in most of the homes are from other States.[3]

Public Aid for Homes

After the establishment of homes for blind children, it was not long till the state was called upon to take notice of them and to lend them aid.[4] Such action was considered all the more appropriate in view of the work of an educational character which to some extent had been undertaken.[5] Public assistance, first rendered by the State of New York in 1908, is now granted in practically a dozen of the States, extending even to ones without special homes in their borders. These are Arizona,[6] Maine,[7] Michigan,[8] Minnesota,[9] New Jersey,[10] New York,[11] North Dakota,[12] Penn-

[1] The age limit sometimes depends upon that at which children may enter the school for the blind in the State. At the Brooklyn Home for Blind, Crippled, and Defective Children the upper limit is 16, and at the Dyker Heights Home 12. At the Catholic Institute for the Blind the period is from 4 to 16.

[2] Some of the homes make particular efforts to discover blind babies, and to see that proper care is given them at home. In a certain proportion of cases sight is restored.

[3] The homes are usually crowded, there sometimes being a considerable waiting list. For table as to homes, see Appendix C.

[4] In some instances blind children may be provided for at public institutions for defective or other classes. In Michigan blind children may be admitted at the State public school for dependent and ill-treated children. Laws, 1917, ch. 188.

[5] On aid to homes, see *Outlook for the Blind*, vi., 1912, p. 51; Message of Governor of South Dakota, 1917, p. 10.

[6] Laws, 1912, chs. 9, 36.

[7] Laws, 1913, ch. 46.

[8] Laws, 1913, ch. 258.

[9] Laws, 1913, ch. 284; Gen. Stat., 1913, § 4051.

[10] Laws, 1916, ch. 134.

[11] Laws, 1908, ch. 65; 1912, chs. 60, 223.

[12] Laws, 1913, ch. 67; Comp. Laws, 1913, §§ 1707, 1708.

sylvania,[1] Rhode Island,[2] South Dakota,[3] and Tennessee.[4] The usual provision is that some home, either in or out of the State, may be contracted with for the care, maintenance, and instruction of blind children who are under a certain age, often the age of entrance into a regular school, or of blind infants and other blind children who are without suitable custody, the age limit of the latter being thus left indefinite.[5] In most cases the duty is entrusted to the State board of education, though in Minnesota, North Dakota, and South Dakota to the board of control. Sometimes, especially in States without local schools, the general provisions applying to the education of the blind are simply extended to include the very young. In certain instances aid is formally offered only to children whose parents are unable to furnish proper support; and in most instances the consent of the parents is necessary. Where a specific sum is allowed, this is frequently not far from $400 a year.[6]

[1] Laws, 1913, p. 158; 1915, p. 482.

[2] Laws, 1913, p. 55.

[3] Laws, 1917, ch. 150.

[4] Laws, 1915, ch. 82; Ann. Code, 1917, § 2659a.

[5] In Michigan the limit is 6 years; in Arizona, 6, or in some cases 12; in Tennessee, 12, or in some cases 16; in Pennsylvania, 8, or in some cases 12, or even more.

[6] The amount is $1 a day in Arizona, New York, and Rhode Island; and $1.50 a day in Pennsylvania. In Michigan it is $5 a week, but not to exceed $2,500 in all in one year; and in Tennessee, $1 a day, but not to exceed $2,500 in one year. In New York $2 a week was at first allowed by the city, and later 60 cents a day by the State.

NOTE TO CHAPTER XXXI.—On homes for blind children, see Florina Lasker, *op. cit.*, p. 78; Proceedings of American Association of Workers for the Blind, 1907, p. 108; Report of New Jersey Department of Charities and Corrections, 1913, p. 152; Report of Special Committee of New York State Board of Charities to Investigate the International Sunshine Society, 1914, p. 46; Report of Connecticut Board of Education for the Blind, 1904, p. 16; Report of Department for the Blind, International Sunshine Society, 1915, p. 74; History of International Sunshine Work in New Jersey, 1911; "The Little Book," Milwaukee, 1908; Report of Pennsylvania Institution, 1913, p. 29; Western Pennsylvania Institution, 1914, p. 22; *New England Magazine*, xxxii. (n. s.), 1905, p. 625; *Connecticut Magazine*, v., 1899, p. 171; *Ladies' Home Journal*, March 1, 1911; *International Record of Charities and Correction*, ii., 1887, p. 148; *Journal of Medical Society of New Jersey*, xiii., 1916, p. 368; *Modern World*, x., 1908, p. 511; *Van Leuven-Brown Magazine* (Detroit), May, 1916; *Outlook for the Blind*, ii., 1908, p. 30; v., 1911, p. 63; x., 1916, p. 74; *Charities and the Commons*, xiv., 1905, p. 653; *Brooklyn Eagle*, Feb. 26, 1905; March 17, 1907; *New York Herald*, Aug. 25, 1907; *Boston Journal*, March 15, 1903; *Boston Budget and Beacon*, Oct. 7, 1905.

CHAPTER XXXII

INDUSTRIAL ESTABLISHMENTS FOR THE BLIND: THEORETICAL ASPECTS

Discontent with Industrial Condition of the Blind

In much of our preceding discussion respecting the economic condition of the blind it has apparently been assumed that the mass of them were not to be regarded as potential wage-earners, and that the treatment to be extended to them was to be in accordance with this conception. But from time to time certain questions have been asked regarding the industrial possibilities of the blind. Must it be conceded that the blind cannot in some part be made to maintain themselves by honorable employment? Are there not a number who may be enabled in some measure at least to assist in their support? Is it not feasible to provide occupation at any rate as a set-off as far as possible to their idleness, so that they may not be denied the priceless boon of mankind — "the blessing of toil"? Concretely, may not some kind of industrial establishment be afforded, or arrangement effected, whereby the blind may be trained in a trade, and given an opportunity under suitable direction to engage in industrial employment and to become to some extent wage-earners? Or may not some other industrial provision be made for them?

Such is the question now before us. It is one of very great moment, and next to that of the prevention of blindness itself is the most pressing one in the work for the blind today. In any consideration of the matter, however, it would be wrong to think that the problem of industrial employment for the blind is a new one, or that it is but a phase of modern concern in them. As a matter of fact,

from the very beginning of organized work for the blind in the creation of schools, attention has been directed to the subject. At the same time it is hardly less true that the plan is now receiving a study never before accorded it. The matter of the industrial employment of the blind we shall duly examine—in the present chapter examining the theoretical aspects of special establishments, in the next two the practical application of the principle in those hitherto created, and in the two following ones the possibilities of employment outside of special establishments, or in the general occupations of the seeing.

We have already dwelt at length upon the industrial condition of the adult blind, and have noted what were the proportions found to be self-supporting. It is from the state of the great number of these, especially of the most unfortunate, that the cry arises for some sort of industrial provision. Concern is directed to the plight both of those who have attended the special schools and have obtained a literary education, but who have found their economic position in the world but little improved thereby, and of those who have become blind in adult life and have often been compelled to abandon the occupations to which with the possession of sight they had been accustomed.

Industrial Training in Schools and Its Later Effects

Most of the schools for the blind, as we have seen, do afford a certain amount of industrial training. But this industrial training has not been found to have altogether satisfactory results in the after lives of the pupils. Complaint has been voiced in this regard upon two grounds. First, it has been thought that the training is not adequately based upon the subsequent needs of the blind. Second, there has seemed too often to be discovered a break in the relations of the schools to their former pupils, who pass from them out into a new world where they are left to stand or fall as they may. With many persons there was

an expectation in the establishment of the schools, as we have already had occasion to observe in the consideration of their founding, that the blind would thereby be rendered capable of earning their own support—a view that even at the present is shared in some quarters. It would have been much better if such a hope had never been entertained, or if it had existed in a greatly modified form. A limited acquaintance of a practical nature with the blind and their capabilities has usually been sufficient to demonstrate the weakness of this conception.

At the very beginning of the instruction of the blind in the United States the industrial problem came to the front. The schools had hardly taken up their tasks when they found themselves face to face with the question of the after employment of their pupils; and it was one of their great purposes to meet it. Indeed, it may be doubted if the matter were regarded as hardly less acute in the early schools than in those of today. Soon after the inception of one of the former we are told in words that sound much as of the present: "What the blind need is encouragement, and not sympathy; wages, and not alms."[1]

It was in the first years the prevailing belief that by a well-adapted course of training the pupils in the schools could to a very great extent be made self-supporting. Thus in an address to the public at the time of the opening of the school in Massachusetts it was stated that "blind persons can become as well qualified as seeing persons for many employments which are generally thought beyond their powers."[2] In response to an inquiry as to the advisability of the establishment of a school in Ohio, Dr. Howe of the former school asserted: "I shall be sadly disappointed if three-fourths of our pupils cannot support themselves."[3] In an official account in New York a few years after the

[1] Report of Tennessee School, 1861, p. 6.

[2] Address of Trustees of New England Institution for the Education of the Blind, 1833, p. 11.

[3] Report of Trustees Appointed to Collect Information Relative to the Education of the Blind, 1836.

opening of a school in that State it was declared: "Many if not all of them [the blind] will thus be enabled to earn an honest living."[1] In the first report of the Iowa School the accepted view is presented in even more sanguine terms:

> It is confidently believed that the blind, with proper instruction, will be able to maintain themselves free of charge from their friends or the State. There will be as few exceptions among this class, according to their numbers, as among those who have sight.[2]

In an early report of the Ohio School a similar anticipation is expressed, but in more guarded language:

> The hope and expectation is that our pupils when they leave here will be able to support themselves . . . though we admit that there is not sufficient experience here or elsewhere in this country to decide whether it will be fully realized.[3]

As further evidence of the confidence felt in the results of an industrial nature of the schools, we find that in the exhibitions of pupils given in many States to awaken an interest in the movement, prominence was very often accorded to this aspect of the work, with a more or less extensive display of articles already produced.[4]

The schools, however, as the actual results began to be borne in upon them, were not long in coming to a full appreciation of the situation, and to the realization that the tasks which they had set before themselves were far be-

[1] New York Assembly Documents, 1840, no. 172, p. 5 (Report of Commissioner of Schools concerning Institutions for the Deaf and Dumb and for the Instruction of the Blind). "It is gratifying to know that a large proportion of the graduates of this institution are capable of earning, and many of them do earn, their own support in after life." Message of Governor of New York, 1861, p. 28.

[2] Report, 1854, p. 4.

[3] Report, 1843, p. 15. On early hopes regarding the industrial prospects of the schools, see also *American Annals of Education*, iv., 1834, p. 579; vi., 1836, p. 254; Pennsylvania Institution, Address to the Public, 1834; Address to the Citizens of the State of Delaware, 1834, p. 5; Address to Inhabitants of New York, 1832; Account of New York Institution, 1833, p. 15; By-laws of Virginia School, 1845, p. 4; Report of Ohio School, 1845, p. 6; Tennessee School, 1857, p. 12; Minnesota School, 1892, p. 89.

[4] The early schools drew forth nearly as much astonishment and admiration for the industrial accomplishments of their pupils as for the intellectual. The chief products exhibited were baskets, mats, mattresses, woven work, and the like.

yond their powers. At one of the early conventions of instructors the case was thus stated:

> The great idea in establishing institutions for the education of the blind was to promote their real welfare, not only as regards their intellectual and social improvement, but in fitting them for self-support. The action of the legislatures has been greatly influenced by this expectation, and they continue to be liberally supported for the same reason. The experience of this country and of Europe has not realized this hope.[1]

The explanation was simple:

> They [the blind] have been taught habits of industry at school, but because they cannot earn enough by their labor to supply both board and clothing, they must either beg or go to the almshouse.[2]

Not only did the schools recognize this condition, but many of them felt a keen responsibility in the matter. They questioned themselves as to what should yet be done; and the most frequent query was whether they should not offer some sort of industrial provision as a continuation of their duty to the blind who had once been their pupils. By some this was formally proposed as a solution of the problem, and by a few it was actually attempted, as we shall later see.

The schools had peculiar opportunities of discovering how former pupils were faring after they had left the friendly roofs that had sheltered them and were battling with the world. There was frequent occasion to note a tendency in them to look back to the schools for help and guidance when the struggle was going hard. Brave as might be the efforts of the blind man, they were often insufficient to meet the conditions which were before him. In the words of an Indiana report:

> He has failed just where almost any other person with even inferior education and skill in his trade would have been success-

[1] Proceedings of American Association of Instructors of the Blind, 1874, p. 32.
[2] Report of Maryland School, 1873, p. 11.

ful, and he must fall back disconsolate upon his friends, or upon his *alma mater*.[1]

The situation is thus described in the case of the New York Institute:

In the earlier days of this institution, the only object sought was to educate the blind, and fit them for usefulness and self-support in the isolated positions which they occupy. . . . When the term of their instruction expired, they returned to their friends and attempted to make their way in the world as the seeing do, by means of the trades they had learned. But the multiplied difficulties under which they labored from the want of means, the difficulty in procuring materials and making sales, soon demonstrated that against these obstacles it was impossible, without additional aid, for them to compete successfully with the seeing, and that as yet philanthropy had done but half its work. Our graduates began to return to us, representing the embarrassment of their condition abroad, and soliciting employment at our hands.[2]

The condition of the blind is further indicated in connection with this institution.

The blind had been taught to hope that we were putting into their hands the means of independence in the trades we were teaching them. We had encouraged them to go forth and make the experiment of self-support. They had made the attempt, and although with many instances of success, the far greater number found the object unattainable. The bright hope that had been cherished for years, which had cheered the darkness of the present and illumined the pathway of the future, was extinguished. The world was made for the seeing—they began to fear that there was no place in it for the blind. Thus defeated and disappointed, our graduated pupils came back to us, and constant were the applications for relief.[3]

In these circumstances it is not to be wondered at that in more than one instance an ear was lent to the project that the school undertake the industrial support of its former

[1] Report, 1850, p. 38.
[2] Report, 1849, p. 7.
[3] Report, 1850, p. 18. See also *ibid.*, 1841, p. 9.

pupils. In the words of a report of the Pennsylvania Institution:

> To refuse this and dismiss them to make their way in the world, unfriended and unprotected, would be, in many such cases, the means of obliterating all they have learned, and consigning them to hopeless dependence, a burden to the public and to themselves; and to that extent to become living evidences of failure in the institution from which they were inconsiderately discharged. It would render fruitless the whole cost of their education. . . . The proper preventive is the establishment of a Retreat where their bread can be earned, their morals protected, and a just estimate put upon their talents.[1]

In a report of the Missouri School it was declared that there was no escape from a decision—

> Whether the policy shall compel all graduates to pass out into the conduct of life, however they may be qualified; or whether [the school] shall discriminately employ them in workshops.[2]

It was felt that, by the condition of the pupils who had gone out from their doors, action was forced upon the schools, and that no other course was open to them. Indeed, so widespread had this view been accepted on the part of the schools that even as late as 1853 the American Association of Instructors of the Blind at its first convention adopted the following resolution:

> *Resolved*, That in the opinion of this convention every institution should offer employment to all its graduates of good moral character.[3]

In the course of time, however, and especially after the results of the experiments in this direction had become known, the impracticability of the scheme was generally seen; and the schools one after the other, with but an

[1] Report of Special Committee Appointed to Consider . . . a Retreat for the Blind, 1851, p. 5. See also Address to Public of Home for Industrious Blind, 1861; Report of Tennessee School, 1869, p. 6; Georgia School, 1871, p. 8.

[2] Report, 1860.

[3] Proceedings, pp. 6, 31; Report of New York Institute, 1854, p. 51.

occasional later exception, finding that they were not the proper places for the task, gave up the thought of establishing industrial departments for adults in connection with their work. So completely had the tide now turned that only a score of years after the resolution just mentioned had been adopted, the opinion was expressed that if such a resolution had been then offered it would not "have received two votes in the convention of 1874." [1]

Though the schools had abandoned the plan of furnishing through themselves industrial provision for their former pupils, their interest in the well-being of those whom they had once instructed was in no wise diminished. The belief was still general among them that industrial establishments of some kind should be made available: only now their judgment had veered to the necessity of the creation and maintenance of such as independent undertakings, free from direct union with them. The reasoning as to the original problem remained the same; and the fate of their former pupils in the world still bore heavily upon them. The desire for a shop and the relation which it should sustain to the schools in the benefits offered by them are thus expressed in an early report of the Ohio School:

> This additional plan of benevolence would seem to finish the work so nobly begun and continued by the state, and at once cheer the hearts of those who are sometimes saddened by the doubts and difficulties of their future prospects.[2]

Thus much for the early recognition of the economic condition of the blind who had attended the special schools, and for their efforts to deal with the situation. Attention may be directed to the present day aspects of the matter. It is found that the practical achievements of the schools from the beginning down to this time have consisted for the most part in the providing of a literary education for their pupils, with the furnishing of an industrial equip-

[1] Report of Maryland School, 1875, p. 18.
[2] Report, 1846, p. 9.

ment which may prove one insufficient to answer in the world outside. There has been complaint on many sides as to this state of affairs, and frequent fingers have been pointed to the condition of those who have had a "schooling."[1] The schools, so far as their aims are concerned, are thus represented by the Commission for the Blind of Massachusetts:

> They are distinctly educational, and their dominant conceptions academic; their curriculum is mainly literary, and their methods scholastic. . . . The present industrial training is stereotyped. . . . The schools are organized and managed like the public schools, . . . their graduates are left to sink or swim. . . . Hitherto but feeble and unsystematic effort as a rule has been made to keep in touch with them, or to establish bureaus of information or employment. . . . Consequently many of the blind lose heart and hope, and fail for lack of opportunity or of general business capacity to maintain themselves or to contribute much to their own support, even when they have learned a handicraft during their pupilage.[2]

The State Board of Control of Wisconsin thus refers to the condition of the blind:

> There are many adult blind in this State who have learned trades at the State school for the blind or elsewhere, but who are greatly embarrassed by reason of their infirmity in securing employment, and who find themselves unable to compete successfully with those having sight who are engaged in the same trade.[3]

The State Board of Charities and Corrections of California has this to say regarding the situation in that State, where there is also an industrial home:

[1] Of former pupils of one school, only five per cent are said to be self-supporting. Proceedings of National Conference of Charities and Correction, 1907, p. 189; Proceedings of American Association of Workers for the Blind, 1907, p. 88; *Outlook for the Blind*, ii., 1908, p. 10. See also *American Journal of Sociology*, vii., 1902, p. 53; Proceedings of National Conference of Charities and Correction, 1888, p. 113.

[2] Report, 1906, pp. 8, 10.

[3] Report, 1904, p. 135. The commission for the blind of New York has found that the trades of the blind are not "selling."

The management of the institution for the blind says that they leave the industrial training of the blind for the home, and the home in reality only trains men in the manufacture of brooms. It must therefore be conceded that the industrial education of the blind in this State is very scant.[1]

In Ohio it is affirmed that "the teaching of the State school has benefited but a few." [2]

The situation of the blind after they leave school is thus further described:

Many of the States have been generous in their provision for the education of the young blind. . . . At the close of the school period of their lives, however, at the most critical juncture, when their whole future is to be determined, in this country intelligent interest seems suddenly to cease. . . . [The blind] have outgrown the school, and we have no place for them in the active world. . . . They have no business training. Many of them have no profession, most of them have no trade. Some of them have been ambitious students in music and piano-tuning . . . but unfortunately most of them are poor and without friends. They may be willing and even anxious to work, but to get started and established is an almost impossible task. If the school training has been in music, which is usual if a correct ear and any natural ability are found, there still remains the great difficulty of finding pianos or organs to play; and lacking the opportunity, the costly training given by the State goes for nothing, and a life of unwilling dependence follows.[3]

Yet as a matter of fact the blame for the state of affairs found to be existing can only in the slightest degree attach to the schools. The blind man, as we have already in large measure discovered, presents a peculiarly difficult problem in any community, and despite the best and most practicable industrial instruction available, his may prove a sorry existence.[4] With continued direction and over-

[1] Report, 1908, p. 78.

[2] *Ohio State Medical Journal*, v., 1909, p. 472. A similar statement is made by the Ohio Commission for the Blind.

[3] *Charities and the Commons*, xiii., 1905, p. 497.

[4] "It is only in exceptional cases and under especially favorable circumstances that it [the school] can ensure the blind man a livelihood. . . . It is not surprising that some of the best friends of the blind have seriously questioned whether they must not

sight, his position may be somewhat bettered; but even if this were a task easy of itself, it is hardly one that should be laid upon the schools, and one not to be assumed without serious detriment to their appointed business.[1] For the schools to offer a course of training that would be entirely satisfactory in after years would be a ready solution of the matter; but with blindness the thing that it is, this does not now appear to be within the range of the achievable. The most that can be asked of the schools is that they provide the most practical and suitable trades that can be found, and ones adjusted to the farthest degree possible to the requirements and opportunities of the life to follow. With this their main duty is done: they are absolved from the responsibility for the general industrial condition of their former pupils.

It is furthermore to be said that the schools do not, after all, make an entirely poor showing with regard to the economic standing of their former pupils when this is compared with the standing of the adult blind in general. As we have found, the proportion of the blind who are gainfully employed is nearly three times as great for those who have attended school as for those who have not; while the proportion of such who are self-supporting is one-fourth greater for the former than for the latter, and the earnings of the one are twice as great as those of the other (though credit is also to be shared by schools not primarily for the blind, with due consideration as well given to other factors).[2] We have, in addition, the statements of some of the schools respecting the proportion of their graduates who are self-supporting. In the case of the Ohio School this is given as 77 per cent; [3] of the Maryland School, as 70

always remain a helpless and dependent class." Report of Minnesota School, 1892, p. 89.

[1] "The State school for the blind is not, and while it remains a school cannot, be expected to furnish those adult persons with proper facilities to pursue their respective vocations without serious injury to the school." Report of Wisconsin Board of Control, 1904, p. 435.

[2] See pp. 57–59, 65.

[3] Report, 1905, p. 101 (8th reunion of former pupils).

per cent; [1] of the Wisconsin School, as 75 per cent; [2] of the North Carolina School, as 85 per cent; [3] and of the Kansas School, as 80, or perhaps 90, per cent.[4] Of 68 pupils graduating from the Pennsylvania Institution from 1888 to 1906, it has been found that 85 per cent are successful in later life, and that of 340 pupils not graduating, 29 per cent are self-supporting, and 16 per cent partially so.[5] Of 60 former pupils, taken at random, who had finished a course at the New York Institute from 1892 to 1912, there were 56.7 per cent who were regarded as successful, 28.3 per cent as partially so, and 15.0 per cent as unsuccessful.[6] Of 37 graduates from the New York State School from 1901 to 1908, all but three or four are reported to be earning a competent living.[7] An estimate of successful graduates able to support themselves without assistance for the country at large is 50 per cent.[8] From advices received directly from certain of the schools, the proportion of graduates who are successful ranges from 60 to 100 per cent, and of former

[1] *Baltimore American*, May 20, 1903.

[2] Report of Wisconsin Board of Control, 1908, p. 268.

[3] Report, 1906, p. 13; *Outlook for the Blind*, iii., 1910, p. 171; Proceedings of American Association of Workers for the Blind, 1909, p. 45; Proceedings of National Education Association, 1910, p. 1052.

[4] Report 1896, p. 8. In a report of two years before it was stated that only 5 per cent were self-supporting. Report, 1894, p. 13.

[5] Report, 1907, p. 14. Of 151 pupils discharged from this institution from 1902 to 1907 who could be examined, 63 were considered to have "good" prospects of success, 36 "fair," and 18 poor; while 34 were regarded as incapable, most of such being hopelessly feeble-minded or physically ill. Those who had the most favorable chances usually had some sight. *Ibid.*, 1912, p. 15.

[6] Report, 1917, p. 28. Of 305 blind persons in almshouses in New York in 1879, the proportion who had lost sight under the twentieth year was 12.0 per cent; in 1895, of 276, 11.6 per cent; and in 1905, of 361, 9.1 per cent. Of the number in 1879 only 17 had attended a school for the blind; in 1895, 17; and in 1907, 21. This means that of over a thousand graduates living in 1905, only 21 were so situated. W. B. Wait, "Three Special Studies in the Sociology of the Blind," 1906. See also Report of New York Institute, 1879, p. 25; 1895, p. 25; 1906, p. 33.

[7] Report, 1908, p. 12. It is also stated that of those who have learned certain trades, 50 per cent are self-supporting, and of those who have learned others, from 60 to 70 per cent. *Ibid.*, 1893, p. 9.

[8] Proceedings of National Conference of Charities and Correction, 1906, p. 239. "Our graduates, with but a few exceptions are making an independent living." Missouri School, Story of the Blind, 1901. In Indiana of 39 blind persons found to be self-supporting, 30, or 77.0 per cent, had attended a school for the blind, while of 135 in need of industrial training, 59, or 43.6 per cent, had so attended. Indiana Bulletin of Charities and Correction, Dec., 1914, p. 498.

pupils, so far as an estimate is ventured, from 20 to 90 per cent.[1]

That the graduates of the schools do better than other blind persons seems to be sufficiently demonstrated—a result that speaks well indeed for the schools. Unfortunately, however, only the smaller part of the pupils graduate; and it is doubtful if the greater number are much better off economically in the world than those of the blind who have never been affected by the schools. The net effect, then, of the schools upon the industrial condition is of limited character. Despite their efforts, which are usually both earnest and intelligent, and generally all that can be expected in the circumstances, the industrial possibilities of the blind are found to be so circumscribed that the impress able to be made upon the situation as a whole is not marked.

Industrial Condition of Persons Becoming Blind in Adult Life

From attention to the industrial condition of the blind who have attended the schools, we turn to that in respect to the blind who have become so in adult life, and who consequently have not had connection with them. The situation with the latter does not appear to be improved, as we have already found from our previous extensive examinations.[2]

[1] In Montana, Florida, and Kansas the percentage for graduates is given as 100; in Colorado, as 94 (for males); in California, North Carolina, Utah, and Wisconsin, as 90; in Pennsylvania (Western), as 85; in New York (State School), as 80; in Alabama, Kentucky, and Massachusetts, as 75; in Texas, as 70; in South Dakota, as 67; and in Missouri, as 60. The percentage for former pupils generally is given in Montana as 90; in North Carolina as 85; in Utah as 80; in Florida as 60; in Kentucky as 50; in Pennsylvania (Western) as 40; in South Dakota as 33; in California as 30; in Texas as 25; and in Nebraska as 20. In some cases it is said to be "very small." On the success of former pupils, see also Report of Mississippi School, 1887, p. 5; North Carolina School, 1890, p. 21; Maryland School, 1889, p. 13; Ohio School, 1880, p. 13; New York State School, 1886, p. 17; 1903, p. 25; 1904, p. 25; 1906, p. 30; Nebraska School, 1916, p. 24; Bulletin of Missouri Board of Charities and Corrections, 1910, no. 3, p. 58.

[2] Persons becoming blind in adult life are described as "that larger class to whom blindness comes as an unlooked for and dreadful affliction, and who are totally unprepared to meet the responsibilities of life in their new condition. The man in

It is to be stated, however, that a blind man otherwise in good health who loses his sight in adult life is in many respects better off than one always blind. The acquired sense of self-reliance, the industrial habits, the knowledge of conditions in a sighted world, the practical experiences—all stand him in good stead, and give him an advantage of no small value.

Offer of the Workshop as a Means of Betterment

From this review of the condition of the blind, we are at no loss to understand why inquiry has been made time after time as to whether certain industrial provision might not be made for them which would to some extent at any rate ameliorate their state. Such provision has, in its initial conception, usually taken the form of the setting up of special establishments suited to their needs, in which they are to be put in the way of earning some part of their living.

This proposed action has its theoretical basis in the fact that there exists in the community a body of men who by reason of a physical defect, namely, the loss of sight, are disqualified from engaging in the regular pursuits of men,

middle life—often as strong physically or mentally as he ever was—is left absolutely stranded, whether by accident or disease he is deprived of sight. . . . He may have been a mason or a carpenter or foundryman, but for him blind his former occupation is impossible. He must learn a new trade, a way of profitably using his energies. . . . In his sudden affliction everything seems hopeless." *Charities and the Commons*, xiii., 1905, p. 498. The condition of the adult blind is thus further pictured: "While among the blind there are always a few who, by reason of natural gifts or unusual opportunities, will succeed without outside help, the large majority are merely average men and women. When blindness comes suddenly, the man is at first stunned, then confused, then appalled by the apparent helplessness of his position. He has always depended upon his eyes to guide his every movement; and when he finds that sight is gone, there comes a sense of utter helplessness. His usual movements are imperfectly coördinated, and his attitude and gait take on an exaggerated awkwardness. In the manual laborer, the brain action is not usually rapid. The routine muscular movements under the guidance of the eye have become largely automatic. When one element of the associated functions is taken away, the movement of all becomes hesitant and uncertain. Then rapidly follows loss of self-confidence. The man can no longer do the simple things that he had all his life done, although sight is not required to do them." *Ibid.*, xv., 1906, p. 607. See also Proceedings of New York State Conference of Charities and Correction, 1904, p. 410; Report of Board of Charities of District of Columbia, 1901, p. 274.

and who are thus largely rendered incapable of providing for themselves independently. They are to be regarded as "a disabled and infirm fraction of the people," or more specifically, as "sighted men in a dark room."[1] Rather than let them drift into absolute dependence and become a distinct burden, society is to lend an appropriate helping hand.

The creation and maintenance of industrial establishments, it is to be recognized at the outset, involve a not inconsiderable financial outlay. It is not to be expected that they will become self-supporting, though under particularly favorable circumstances they may approximate such a result.[2] Evidence of this is usually not long in forthcoming after more or less extended experience, even if it is not confessed at the very start. In the case of the industrial home in California at its opening it is declared that "any pretense that it can be made so [*i. e.*, self-supporting] we believe to be visionary or intentionally deceptive."[3] Similarly in the first report of the Pennsylvania Working Home it is stated that "it is not for a moment to be supposed that such an establishment can be self-supporting."[4] Finally, to use more recent testimony, that of the Massachusetts Commission for the Blind:

> Satisfactory as has been the experience of Massachusetts in dealing with the question of industrial work for the blind, it should not be forgotten that certain conditions inseparable from

[1] "There is no law on the statute books compelling people to move up a little closer on the bench of life, to make room for a blind brother, but there is a divine law written in the hearts of men, constraining them to make a place for him, not only because he is infirm, but because it is his right to share God's greatest gift, the privilege of man to go forth to his work." *Youth's Companion*, Jan. 4, 1906. See also Helen Keller, "Out of the Dark," 1913, p. 150; *Outlook*, lxxxii., 1906, p. 983.

[2] Such establishments are "from a pecuniary point of view unnecessary, and from a social aspect undesirable. . . . But whether the work is done by the state or by charitable associations, the money should not be appropriated or solicited upon the representation or expectation that scotoic labor can be commercially profitable, or that scotoic labor can earn, or ought to be expected to earn, an independent self-support." *Charities and the Commons*, xvii., 1906, p. 410.

[3] Report, 1887, p. 7. See also Report of Illinois Board of Charities, 1888, p. 69.

[4] Report, 1875, p. 21. This statement was made after the experience of the Pennsylvania Institution with a shop in connection with it.

that work make it unlikely that the shops, whether small units . . . or larger units . . . can ever be made to pay their own way.[1]

On the other hand, it may be argued that this arrangement is not without financial advantage to the state, in that there will be utilized whatever industrial faculties are still possessed by the blind, with the promotion of their industrial efficiency to the fullest degree possible. In addition, there are considerations of other than financial character which are perhaps to be the determining factors in the situation. In the undertaking a two-fold benefit is accomplished for the blind for the most part impossible in any other way. First, they are rendered to a certain, even though small, extent self-supporting, and may only thus feel a degree of independence. Second, they are afforded occupation, by means of which the dreadful curse of idleness is in some measure lifted from their shoulders.

Though special establishments are often the first form of industrial employment for the blind to engage attention, they do not constitute the sole form of such provision. For a certain portion employment outside of these, or in the regular occupations of the sighted, will prove not only more desirable on general grounds, but also more feasible in particular cases. The matter of such wider employment is to be considered later.

Sphere and Plans of Workshops for the Blind

Special establishments for the blind may be undertaken under private or under public auspices. In either case they may be instituted as independent organizations or as a part of a general scheme of work for the blind. Under a comprehensive policy, shops or industrial centers may be created in those communities where there are congregated a sufficient number of blind persons capable of industrial employment. For an entire State or for a large tributary

[1] Report, 1910, p. 15.

territory there may be provided some central station or a chain of small shops, whichever is deemed the more feasible.[1] In these establishments two things are to be done: instruction is to be afforded in the industries chosen as most suitable, and employment is to be given after the period of training. Here under proper guidance marketable goods are to be produced, and placed on the market through an efficient business system. For the carrying on of the work a certain amount of sighted supervision and assistance is necessary; and this should be at once skilled, practical, and sympathetic. The shops should be conducted as far as possible on thorough business principles, and should be so recognized by the public. Hours of employment, methods of payment, and other features should likewise conform as far as possible with similar details in respect to normal labor.

As a general thing, the employees of the shops, especially those of them who are married, are to live in their own homes, coming to their places of work each day, after the manner of regular factory operatives. In this way their lives are made more like those of people round about them, they are benefited by associations with persons having sight, and they can feel a greater measure of independence. But where this arrangement is not feasible, or where there are a certain number who cannot live near their homes, or have no homes, a boarding department may be attached to the plant, with living supplied at the minimum cost.[2]

[1] For a proposal of a national industrial establishment, see O. C. Brown, "Legal Wrongs against the Blind," 1886, p. 13; *Buffalo Enquirer*, Jan. 31, 1912.

[2] The former plan meets with the wider favor. Another reason advanced for it is that institution rules are not good for adults. For arguments in favor of this arrangement, see Report of Perkins Institution, 1840, p. 28; 1850, p. 15; 1851, p. 32; 1858, p. 24; *Problem*, ii., 1001, p. 13; Report of Wisconsin Board of Control, 1006, p. 46;. On the other hand, it is sometimes contended for the living in plan that homelike features are thus provided for otherwise homeless men; that the infirm can also have a home; that if the blind live out they are likely to have poor quarters; that it is often difficult to apportion wages to the needy; and that this is on the whole the less expensive arrangement. On the general question, see Proceedings of American Association of Instructors of the Blind, 1874, p. 62; Proceedings of American Association of Workers for the Blind, 1907, p. 117; *Outlook for the Blind*, ii., 1908, p. 39.

Though the shop may be organized as an independent institution, yet to reach its maximum efficiency, it should fit into a general plan of service to the blind, especially if conducted by associations or commissions. It may also be concerned in a number of ways with blind persons outside. It may set up some in individual trades, furnishing where necessary tools and materials, and may provide others, particularly women, with some form of home work. It may even encourage any of its employees to leave when a desirable opening presents itself elsewhere. In addition to promoting the industrial welfare of the blind, the shop may be useful in other directions, having duties towards the blind in general. Like the school, it may now and then become the center for a considerable amount of "extension work," acting as an adviser or intermediary, directing libraries or home teaching, or performing similar tasks.

Practical Considerations Involved in the Creation of Workshops

Theoretically, industrial establishments appear to be the solution of the economic problems of the blind. It is only when the practical application of the principle is undertaken that serious difficulties are found to present themselves.

In the actual conduct of the shops there are certain matters which have to be met and dealt with. These may be divided into two classes, which we may call internal and external difficulties. In the internal direction of the shops there are encountered handicaps of an order not experienced in general establishments.[1] For such a multi-

[1] In certain cases there may be fear that there will be such an influx of applicants for work as to overwhelm the facilities of the establishments, though this may be guarded against to some extent by the limitation of admission to those having prescribed qualifications, including residence in the immediate locality or in the State. On the other hand, it may not always be found an easy matter to give notice to all the blind who are eligible and are entitled to enter. On the latter matter, see Report of Michigan Employment Institution, 1906, p. 7; 1912, p. 69; *Charities and the Commons*, xv., 1906, p. 634.

plicity of operations is sight depended upon that in its absence a severe and continued strain has to be endured, and an incumbrance to be contended with.[1] The blind must labor more slowly than persons able to use the eye, and even then they are liable to make frequent mistakes.[2] In nearly all cases there will be certain processes accomplished only with the greatest pains, while in many even simple steps will present no little hardship. A considerable portion of the workers may have become blind late in life, with fingers perhaps far from deft, and it will be no easy matter for them to adapt their faculties to the tasks in hand. Very many of these, as well as others, will find it extremely arduous to learn and acquire a new trade. In all cases it is to be remembered that the possession of some sight, however little, is of the greatest assistance.

The difficulties to be experienced by blind workmen who enter industrial establishments have been thus expressed:

> As a rule those who have been employed in such shops have become blind in middle life. It is necessary for them, therefore, to "learn to be blind"—which means that they will be long in acquiring that speed and efficiency which, since their product must be sold in the open market, is an essential if the industry is to pay. A more serious matter, however, is the fact that most of those who become thus blind in middle life have not been accustomed to use their hands in an occupation demanding industrial skill. They have to be trained, therefore, to manual dexterity; and this, with adults, is always difficult. . . . Manual processes without sight, if they are to result in good marketable products, may be done only under one or more of the following conditions: (1) more slowly, *i. e.*, most manual processes are much slower without sight than with; (2) with supervision, *i. e.*, sight, and therefore supervision, is necessary to the preparation for marketing almost all finished products; (3) division of

[1] It has been generally believed that the blind can operate machines but little, but in a few shops they have been successfully installed.

[2] A blind person is said to have but one-third the ability of a person with sight. Report of Supervision of Administration Relative to the Advisability of Providing Pensions for the Needy Blind, Massachusetts, 1917, Senate no. 320, p. 12. Another opinion is that the former possesses two-thirds the efficiency of the latter. Report of Missouri Commission for the Blind, 1916, p. 4.

labor, *i. e.*, most processes have some steps, however few, which can be taken only with the aid of sight.[1]

The situation has been further stated as follows:

> No matter how experienced the blind workman is, he cannot in the nature of the case be as skillful as the sight workers, and therefore cannot go into the wage market to compete with a man who has his eyes. The latter can always outwork and underbid his blind competitor, . . . while his sightless rival hears no demand for his services.[2]

In many stages of the work, moreover, the attention of sighted persons is necessary, while finishing touches have often to be put upon it by such hands. Indeed, so important is the constant attendance in the shops of operatives able to see that they constitute an integral and a very considerable part of the employed force. The extent of sighted help will vary in different shops. The present proportions are from one in three to one in ten, the number usually being in inverse ratio to the size of the establishments. A very material consequence of this situation is that a large part of the amount paid in wages must go to workers having sight, which sometimes may reach more than a third of the total sum.

Perhaps, however, the prime and basic difficulties in the conduct of industrial concerns for the blind are of an external character: in getting upon the market products which are almost certain to be placed there also by other agencies. In this matter there are several economic considerations involved. To prepare goods of such quality as to meet on even terms those of competitors, a great strain is imposed upon the shops. This means that additional sighted help will have to be called into requisition; or more careful, and consequently slower, work on the part of the blind will have to be done. If the product of the labor of

[1] Report of Massachusetts Commission for the Blind, 1910, pp. 15, 17. See also Bulletin of Iowa Institutions, i., 1899, p. 58; *Outlook for the Blind*, vi., 1912, p. 23; Report of Pennsylvania Working Home, 1894, p. 9.

[2] *Ibid.*, 1900, p. 9.

the blind is measurably inferior to that offered by others, sales of the former cannot be expected—unless they are inspired by charity, and this would defeat the very principles upon which the special shops are founded. The industries, furthermore, which are open to the blind are, as we have seen, of a limited number, and hence there are likely to be thrown upon the market, if the shops are at all large, considerable quantities of goods of a very few kinds. In such case the articles are apt to become a drug with respect to these particular trades. The result will be one of three things: the warerooms of the shops will be overstocked with goods that cannot be disposed of; the shops will have to shut down for certain periods; or the workers will have to be employed in shifts or on part time.[1]

To render the situation even more unfavorable to the interests of the blind, it happens that the industries available for the blind, being comparatively simple in their nature, are not only found rather extensively in the general field of employment, but are also those most likely to be selected in certain institutions engaged in industrial work as but an incident to their main purposes. Thus broom making, an occupation peculiarly suited to the blind, is also in a considerable degree adapted to prison labor, and it has been a not unimportant form of such labor. Similarly, the caning of chairs, another especial industry of the blind, has been taken up not infrequently in the workshops of charitable and similar organizations.

Yet the difficulties which we have enumerated are not to be taken as prohibitory, or as a bar to the successful operation of the shops. They are rather to be regarded as among the factors which have to be taken into consideration. They may even be looked upon as a spur to compel undertakings upon strictly practical and scientific principles.

[1] By the Massachusetts Commission for the Blind it is stated with respect to its own shops. "A broom factory in a neighboring city pays 8¼ cents per dozen for house brooms sewed on a power machine, and men make $3 to $4 per day at it. Our men, on the other hand, blind and working by hand, are paid 13 cents per dozen, and have difficulty in earning $1.50 per day." Report, 1912, p. 41.

The main essential is that there be a full adjustment to existing conditions, which requires a study of the general practicability of the industries to be employed, of the capabilities of the workers, of the local situation, of neighboring competition, of the means of marketing, and of similar circumstances. With regard to competition with public or private philanthropic agencies, the blind have a right to expect that due attention be given to their condition and needs, and that the labor of others be regulated accordingly.[1] The not unreasonable demand may also be advanced that the products of public shops be used as far as possible in public institutions, which will be economy to the state no less than distinct aid to the blind.

Not only are the shops to be conducted after business methods and principles, but in the products turned out intrinsic excellence is to be secured at all hazards, so that no apologies will have to be forthcoming for inferior work, the articles selling on their merit alone, without appeal to sympathy or charity. An additional requirement is that the public be made fully acquainted with the wares of the blind, and a demand for them thus created. Many persons are incredulous with respect to the goods of the blind, while some are quite ignorant of their significance. Judicious and well-directed advertising will have to be employed, with perhaps the enlistment of special agents for the purpose.[2]

One further matter remains to be considered in connection with the creation of industrial establishments. We have seen that they cannot be expected to pay their expenses, and that a certain pecuniary outlay is necessary for their creation and maintenance, for the providing of

[1] In Michigan workers for the blind have protested against prison labor in brooms, as broom making is one of the few things that the blind can do. See *Outlook for the Blind*, iv., 1911, p. 171 (quoting from *Saginaw Courier Herald*, Dec. 4, 1910); Proceedings of American Association of Workers for the Blind, 1911, p. 35; Report of New York State School, 1906, p. 37. For a similar view with respect to products of charitable institutions, see *Outlook for the Blind*, ix., 1916, p. 101.

[2] For an appeal that the public purchase the goods of the blind, see Report of Missouri Association for the Blind, 1912, p. 12.

which public or private resources will have to be looked to. We shall even discover that in certain instances it costs more to operate the shops than it would to make the blind an outright grant of money. Under these conditions one question naturally arises. Does not the scheme, no matter by what name it is called, come to "charity" in the end, whether of a private or of a public kind? In one sense, it may be granted, it is so; but in the broader aspects of the issue it is hardly thus to be characterized. The proper way to look upon the matter is that means are but afforded for the blind to earn a greater or less part of their living, to which end a stimulus is held out and assistance lent.

In such a state of affairs, however, an even more important question is presented. Is not this after all but the "making of work" for the blind? Does it in its real analysis amount to anything different? And is this not an economic mistake, evidence of the illusiveness and fallacy of which is found in nearly every case where resort has been made to it? The reply to such questioning, if a strict application of the principle be insisted upon, must be an affirmative one. The charge that in the institution of workshops for the blind society is but "making work" will have to be admitted, for as independent economic affairs alone they will have to fall. The real answer, however, is of larger bearing. The problem is to be settled upon different grounds. The true object of the establishments is to enable the blind to contribute to some extent to their own support, and thus to become, as far as the limitations imposed by their condition will permit, independent citizens of the state. And in the giving of employment to the blind, however short it may come of accepted economic standards, they receive what is the priceless boon of humankind—the blessing of toil—to which they are no less entitled than other men.

Occupations to Be Afforded in the Shops

The matter of occupations to be afforded in the shops for the blind belongs rather to the practical side of the industrial establishments. It is only after they have been tested by experience that we may know the feasibility of different ones. In this place it may merely be noted that the range of employment hitherto found available is exceedingly restricted, being mainly confined to the caning of chairs, and the making of brooms, mattresses, baskets, rugs, brushes, fancy work, and a few like articles—with occasionally other trades in particular shops. For some time these seem likely to remain the chief occupations for the blind, though it is possible that others will be found practicable.

Wages to Be Paid in the Shops

The wages paid to the blind workers in their shops need not be expected to equal those paid to sighted workers. Earnings will naturally be dependent in the greatest measure upon individual ability—and it is again to be called to mind that the possession of even the slightest degree of sight counts for very much. As the want of the sense of vision, however, enters so largely into the equation with respect to most of the employees, involving, as we have seen, slower labor and the assistance of seeing persons, only the smallest proportion can hope to approximate the wages paid elsewhere for the same grade and class of work. The actual wages received we are to examine later. We are also to find that about one-third of the receipts of the shops go as wages to the blind. It might be wished that a larger part could pass directly to them; but when all things are considered, it appears that a really high proportion is paid to them.[1]

[1] Complaint has sometimes been made that, from a purely business point of view, the wages paid are really too high. On the other hand, an establishment with low pay has been referred to as a place "where pride in work is destroyed by a 15 or

We can hardly, then, look for most of the blind in their special establishments to earn a "living wage"—though we can derive some satisfaction from the circumstance that they can earn a part of their support. If the wage to be accorded them is to be brought up to what may be called a fair wage, some sort of bounty or bonus system will have to be put into requisition. In Massachusetts a scientific system has been adopted by the State commission, which may be suggestive in working out the problem. Here a wage of $2 a week is considered a minimum of industrial efficiency, and a man who cannot earn this is considered to be incapable of remunerative employment. At the other extreme, a wage of $6 a week is regarded as sufficiently large to make other assistance unnecessary. Between these figures there takes place what is called the wage "augmentation:" for every cent earned over $2 one-half cent is added up to $6. Thus if a wage of $3 is earned, to this there is added 50 cents, making the total sum received $3.50. By this process not only is substantial help afforded in a way to do the least harm, but an incentive is provided for the fullest return of labor on the part of the workers.[1] There is also possible the adoption of a flat minimum wage.

Proportion of the Blind to Be Affected by the Shops

The question now arises as to what part of the blind can be put in the shops and made wage-earners—disregarding for the present the number for whom it may be possible to provide other forms of industrial employment. In an-

20 cents daily wage." Report at San Francisco Association for the Blind, 1913, p. 8. On wages for the blind, see also Report of Michigan Employment Institution, 1912, p. 12; Proceedings of American Association of Workers for the Blind, 1909, p. 24.

[1] On the bonus system, see Report of Massachusetts Commission for the Blind, 1910, p. 36; Proceedings of American Association of Workers for the Blind, 1911, p. 21; Reports of Ten-year Survey Committee of the Work of the Massachusetts Commission, 1916, pp. 28, 36; *Michigan State Journal*, Aug. 5, 1916; Report of Michigan Employment Institution, 1916, p. 37. It has even been suggested that a maximum wage be paid in the shops. *Ibid.*, 1906, p. 39 (Report of Executive Committee of Michigan Blind People's Welfare Association).

swer, we must understand that even if the industrial establishments became general, only the smaller portion of the blind population would be affected by them. The reasons for this are several. In the first place, a great number of the blind are too old for work—and it is to be recalled once more that a very high proportion of them are in advanced years of life. Moreover, many of the blind near or even below middle age will, from their already contracted habits of idleness, in some cases perhaps of considerable duration, have difficulty in training their hands for a new task, simple as it might be otherwise, and to such persons the required adaptability, far from easy in any event, as we have found, will not come in a short time. Furthermore, it is to be borne in mind that some of the blind of proper working age are mentally or physically wanting, while others are unfitted by their own temperament or manner of life for industrial occupation. Again, the shops are intended primarily for men, it being considered advisable for the present at least that but a small proportion of the women be thus provided for. Finally, a certain number of the blind, especially of the women, are found to be employed in some manner or other in their own homes, where they are in some cases already better off than they could be in being removed to an industrial establishment. From all this it appears that not a large part of the blind can be reached by the shops.

The situation may be summed up in the conclusions on the subject arrived at by the Commission for the Blind of the State of New York.

> At least 65 per cent of them [the blind] are too old to acquire an industrial occupation, while another and unknown proportion of them are physically and mentally unsound.
>
> In the case of many who are sound, long enforced idleness has destroyed the desire to work, so that it would require time to overcome the indolence to which they have become habituated.
>
> Most of the blind, especially among the women, do not travel

far alone, and hence they must reside near their work, or it must be carried to them.[1]

Let us now see if we may not form an estimate of the proportion of the blind who may be benefited by special industrial establishments.[2] A liberal working age is from twenty to sixty. According to the returns of the United States census, 38.4 per cent of the entire number of the blind are of this age, or about two-fifths. Then some 28,000 blind persons in the United States are of working age. Of these perhaps two-fifths are women, the larger part of whom may be withdrawn from our immediate calculations. Of the 17,000 left, a considerable number, which can hardly be less than one-third, are to be deducted by reason of being unfit in one way or another. With due allowance for all such classes, we have as the maximum number of the blind who might be given industrial employment in shops something like 10,000.[3]

[1] Report, 1904, p. 46.

[2] Of 200 blind persons investigated in Indiana, 135, or 67.5 per cent, were found in need and willing to accept employment or instruction. From 80 to 90 per cent of the blind are "capable of useful employment to a substantial extent." Report of Missouri Commission for the Blind, 1916, p. 8; *Outlook for the Blind*, xii., 1917, p. 50. There may be made self-supporting 60 per cent. Report of Missouri School, 1915, p. 12. There are said to be 40 per cent "employable." Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 28.

[3] For estimates of the number of the blind who might be given employment, see Proceedings of American Association of Workers for the Blind, 1905, p. 22; 1907, p. 89; 1909, p. 54; Proceedings of National Conference of Charities and Correction, 1907, p. 489; *Charities and the Commons*, xv., 1906, p. 611; xvii., 1906, p. 141; *Outlook for the Blind*, iv., 1910, p. 23; Report of New York State School, 1906, p. 78; Report of Ohio Commission for the Blind, 1908, pp. 15, 21; Report of Illinois Board of Charities, 1909, p. 597; Illinois Bulletin of Public Charities, xi., 1909, 5, Dec., p. 131.

NOTE TO CHAPTER XXXII.—On the question of industrial employment for the blind, see W. G. Holmes, "Successful Blind Persons in America," 1919; Helen Keller, "Our Duties to the Blind," 1904; Helen Keller, "Out of the Dark," 1913, p. 125; F. J. Campbell, "Life's Teachings" (World's Congress Auxiliary), 1893; William Artman and L. V. Hall, "Beauties and Achievements of the Blind," 1854; J. W. Welch, "Abilities and Achievements of the Blind," 1905; J. C. Mills, "Searchlights on American Industries," 1911, p. 273; Proceedings of 1st Reunion of Officers, Teachers, and Pupils of New York State School, 1879, pp. 55, 66, 81; Proceedings of 1st Reunion of Officers and Alumni of Ohio School, 1860, p. 1; 3rd Reunion, 1880, pp. 55, 60; Columbia Polytechnic Institute, "Sunless World," 1901; American Blind People's Higher Education and General Improvement Association, Special Bulletin,

1899; American Association to Promote the Education and Employment of the Blind, "The Pioneers," 1889; *Problem*, i., 1900, pp. 29, 90; ii., 1901, pp. 9, 16, 53; iii., 1902, p. 56; iv., 1903, p. 40; *Talks, Tales, and Public Opinion*, March, 1906; March, 1907; May, 1910; *Voices from Darkland*, Dec., 1914; *Ohio Harp*, i., 1904, p. 83; *Mentor*, ii., 1893, p. 361; iv., 1894, p. 18; *New Era* (New York State School), 1896, p. 86; *National Magazine*, x., 1857, pp. 247, 301; *Connecticut Magazine*, v., 1899, p. 171; *Coöperation*, vii., 1907, p. 212; *Pine Tree Magazine*, v., 1906, p. 318; *Education*, xx., 1900, p. 298; *Circle Magazine*, vi., 1909, p. 74; *World's Work*, vi., 1903, p. 3817; *Outlook*, lxxxii., 1906, p. 983; *Putnam's Monthly*, ii., 1907, p. 70; *Everybody's Magazine*, xix., 1908, p. 498; *Century Magazine*, xxxv., 1887, p. 329; lxxviii., 1909, p. 82; *Leslie's Weekly*, March 29, 1906; *Science*, xxiii. (n. s.), 1906, p. 268; *World Today*, xvii., 1909, p. 943; *Lend a Hand*, ii., 1887, p. 389; *Charities Review*, i., 1892, p. 185; *Charities*, xii., 1904, p. 62; *Charities and the Commons*, xv., 1906, pp. 567, 607, 624–645; xvii., 1906, pp. 140, 405; *Technical World Magazine*, xxi., 1914, p. 218; *Annals of American Academy of Political and Social Science*, lxxii., 1918, p. 28; Report of United States Commissioner of Education, 1872, p. 433; Report of Massachusetts Board of Education, 1900, p. 527; Report of Superintendent of Public Instruction of Michigan, 1909, p. 66; Proceedings of Pennsylvania Conference of Directors of the Poor and of Charities, 1907, p. 28; Proceedings of New Jersey Conference of Charities and Correction, 1908, pp. 216, 226; Proceedings of Michigan Conference of Charities and Correction, 1905, p. 13; 1906, p. 30; 1907, p. 411; Proceedings of Minnesota Conference of Charities and Correction, 1895, p. 48; 1899, pp. 58, 62; Proceedings of New York State Conference of Charities and Correction, 1904, p. 139; Proceedings of Wisconsin Conference of Charities and Correction, 1893, p. 122; Proceedings of National Conference of Charities and Correction, 1886, p. 234; 1888, p. 113; 1904, p. 419; 1907, p. 489; 1910, p. 290; 1912, p. 79; Bulletin of Missouri Board of Charities and Corrections, 1910, no. 3, pp. 56, 61; Report of North Dakota Board of Control, 1916, p. 272; Report of New York State Board of Charities, 1903, p. 485; Bulletin of Iowa Institutions, i., 1899, p 55; Transactions of International Congress on Hygiene and Demography, 1893, iv., p. 224 (England); Quarterly Representing Minnesota Educational, Philanthropic, Correctional, and Penal Institutions, xiii., 1913, 2, Nov., p. 41; Ohio Bulletin of Charities and Correction, xv., 1909, 1, Feb., pp. 76, 82; xvi., 1910, 1, Feb., p. 32; 2, May, p. 62; xvii., 1911, 1, Feb., p. 170; Report of Ohio Board of Charities, 1894, p. 15; Report of Illinois Board of Charities, 1888, p. 69; Illinois Bulletin of Public Charities, xi., 1909, 5, Dec., pp. 124, 129; Proceedings of National Education Association, 1909, p. 885; Kentucky Board of Health, Bulletin, Oct., 1916; Reference Handbook of the Medical Sciences, 1913, ii , p. 96; American Encyclopedia of Ophthalmology, 1916, ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916; Nelson's Encyclopedia, 1917, ii., p. 136; "Unity and the University," Chicago, April 10, 1886; Report of Royal Commission on the Blind, Deaf and Dumb, etc., 1889, p. 419 (England); Proceedings of International Conference on the Blind, 1908, p. 81; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 23; Report of New York Association for the Blind, 1907, p. 64; Proceedings of Michigan Blind People's Welfare Association, 1902; Report of Michigan Employment Institution, 1906, p. 27 (Executive Committee of Michigan Blind People's Welfare Association); 1914, p. 39; "Some Facts concerning the Michigan Employment Institution," 1905; Report of Pennyslvania Working Home, 1886, p. 10; 1893, p. 30 (paper read before World's Congress Auxiliary of World's Columbian Exposition, 1893); 1910, p. 22; 1912, p. 20; 1914, p. 21; Report of Columbia Polytechnic Institute, 1901; Report of Connecticut Board of Education for the Blind, 1897, p. 7; 1900, p. 12; M. Anagnos, "Through Education to Independence," 1899; W. B. Wait, 'Effort and Progress," 1908; *South Boston Inquirer*, July 31, 1886; *Boston Herald*, Aug. 26, 1883; *Boston Transcript*, Feb. 25, 1903; *Springfield Republican*, March 11, 1906; *Cleveland Plain Dealer*, June 24, 1906;

Brooklyn Eagle, Oct. 10, 1909; *Providence Journal*, Oct. 2, 1910; *New York World*, Dec. 25, 1910; Report of New York State School, 1893, p. 8; 1901, p. 29; 1902, p. 31; 1904, p. 50; 1906, pp. 30, 37, 74; 1909, p. 21; Ohio School, 1863, p. 9; 1871, p. 11; 1881, p. 25; 1885, pp. 87, 105, 126 (4th reunion of former pupils); 1893, p. 119 (5th reunion, 1890); 1900, p. 97 (7th reunion); Louisiana School, 1873, p. 75 (quoting from *New Orleans Times*, Dec. 19, 1873); Arkansas School, 1918, p. 23; Missouri School, 1856, p. 15; Kansas School, 1902, p. 23; Wisconsin School, 1873, p. 26; Perkins Institution, 1886, p. 76; 1899, p. 44; Texas School, 1905, p. 28; Minnesota School, 1914, p. 18; Proceedings of American Association of Instructors of the Blind, 1872, p. 72; 1874, p. 34; 1878, p. 103; 1880, p. 57; 1882, pp. 8, 62; 1884, pp. 59, 79; 1886, p. 25; 1916, p. 51; Proceedings of American Association of Workers for the Blind, 1905, pp. 14, 20, 34; 1907, p. 88; 1911, pp. 18, 89; *Outlook for the Blind*, i., 1907, p. 91; ii., 1908, p. 10; ii., 1909, p. 149; viii., 1915, p. 140; W. C. Posey, "Hygiene of the Eye," 1918, p. 321; Louis Stricker, "Blindness in Hamilton County," 1918, pp. 65, 88, 97, 100; Florina Lasker, "Care and Treatment of the Jewish Blind in the City of New York," 1918; Central Council of Social Agencies, Preliminary Survey of Conditions of the Blind in Cook County, Chicago, 1918.

On the matter of schools for the blind and industrial training, see Indiana Bulletin of Charities and Correction, June, 1902, p. 27; June, 1911, p. 134; Ohio Bulletin of Charities and Correction, xiv., 1908, 2, March, p. 91; xxiii., 1917, 1, Feb., p. 41; Quarterly Representing Minnesota Educational, Philanthropic, Penal, and Correctional Institutions, ix., 1909, 2, Nov., p. 45; xii., 1913, 3, Feb., p. 73; Bulletin of Kansas State Charitable Institutions, i., 1908, 1, April, p. 50; Report of Wisconsin Board of Control, 1894, p. 191; Report of Illinois Board of Charities, 1909, pp. 590, 595; *Charities and the Commons*, xiii., 1905, p. 497; Report of United States Commissioner of Education, 1889, p. 1382; Proceedings of National Education Association, 1907, p. 990; Proceedings of American Association of Instructors of the Blind, 1871, p. 50; 1888, p. 47; 1910, p. 87; 1912, p. 12; Proceedings of American Association of Workers for the Blind, 1907, p. 11; 1909, p. 64; Report of Indiana School, 1850, pp. 30, 34; Arkansas School, 1876, p. 23; 1883, p. 20; Georgia School, 1899, p. 17; New York State School, 1900, p. 13; Ohio School, 1888, p. 10; 1895, p. 108 (6th reunion of former pupils); Maryland School, 1905, appendix: Maryland School, "Schools and Workshops for the Blind," 1906; Two Addresses of M. Anagnos ("Education of the Blind in the United States"), 1907, p. 3; W. B. Wait, "Does a Thorough School Course . . . Induce Dependence?" 1906; *Ohio Harp*, v., 1909, p. 84; *Colorado Index* (Colorado School), Oct. 1, 15, 1903; New York City Department of Education, Reports on Defective Children, 1914, p. 550. See also current reports of schools for the blind.

CHAPTER XXXIII

HISTORY OF THE WORKSHOP MOVEMENT IN THE UNITED STATES

Beginning of the Movement in Connection with Schools for the Blind

While it is possible that there is at present a greater demand for industrial establishments for the blind than ever before, it is, notwithstanding, to be constantly borne in mind that such affairs are not a new thing. As we have had occasion to notice somewhat fully in the preceding chapter, the schools in a number of instances had not been in operation any length of time when attention was directed to the need of industrial provision for the blind, some coming to the belief that it was their duty, after undertaking the industrial training of their pupils, to offer industrial facilities to their graduates, and even to other adult blind persons. In many of their early reports and elsewhere the question of workshops is discussed in its several phases, and often in much detail and with very considerable understanding. The desire for provision of an industrial character was widely shared; and with certain of the schools the feeling crystallized in the actual starting of shops as part of their work. Though establishments have later been undertaken from time to time as independent affairs in various communities, it is these schools that really remain the pioneers in the workshop movement.

Within a few years after the founding of the initial school for the blind in the country, the Perkins Institution at Boston, there was felt the need of some sort of industrial provision for certain of the adult blind. In 1840 an employment department was opened for some of the former

pupils. Three years later this was extended to include other adult blind persons whose wants began to be recognized as well, the school providing quarters for both classes. In 1850 a special plant was created, made possible in part by an appropriation from the State of Massachusetts.[1] In 1863 a laundry was set up for women, but proving a failure, was abandoned in 1867. The shop for men, always a small one, has continued with little change to the present day.[2]

The New York and Pennsylvania institutions likewise at an early date, for reasons already referred to, established shops for adults as an extension of their work, but unlike the Boston school subsequently gave them up. The experience of the New York Institute is a particularly illuminating one. In 1845 an industrial department, known as the "home for the industrious blind," [3] was created for graduates only, which in 1849 was expanded to include others among the adult blind. At first the plan had promising prospects. After five years of operation, it was declared: "So far as the experience of a single year can determine, our efforts have been crowned with the most encouraging success." [4] So great did the number of the blind who sought admittance prove to be that it was said to be "impossible to satisfy the requests of the constant applicants." [5] In 1848 the State legislature, after an appeal made to it, began to allow appropriations directly for the

[1] Laws, 1849, ch. 77. The appropriation was of $5,000.

[2] See Report of Perkins Institution, 1840, p. 8; 1845, p. 11; 1850, p. 10; 1863, p. 7; Report of Massachusetts Board of Charity, 1864, p. 74. The following may be regarded as a fairly typical comment on the work of the shop in its early days: "The results of the workshop during the past year have been in the main quite satisfactory." Report of Perkins Institution, 1844, p. 14. The first industries were chair caning and mattress making, with weaving and basket making to an extent. The making and renovating of mattresses is now the chief trade, with chair-bottoming a secondary one. Certain "loans" were made by the institution to the shop, sometimes of several thousand dollars. Wages at first amounted to two or three thousand dollars a year, and later to three or four thousand. The number of men employed has usually varied from a score to a score and a half.

[3] See Report, 1845, p. 8; 1848, p. 7.

[4] *Ibid.*, 1850, p. 22.

[5] *Ibid.*, 1854, p. 6. It is said that many blind persons were drawn to the city and to the shop. *Ibid.*, 1856, p. 8.

benefit of the shop, which continued during the remaining years of its existence.[1] Funds of no inconsiderable amount were also raised from private sources.

As time went on, however, it was discovered by the promoters that the results were not proving of a kind to indicate the real success of the undertaking. It was found that a large part of the goods manufactured could not be marketed, and that they consequently fell back upon the shop, sometimes choking up its storerooms. It became apparent, says a writer narrating the experiences of the shop, that "the local wholesale and retail markets did not absorb the goods that were produced"; nor was the situation bettered despite "every effort to find a wider market in other States."[2] Debt was incurred to make the venture a paying one, to be extinguished by further legislative grants and private gifts, and the promoters went ahead with their operations.

But after a few years it was seen that this state of affairs could not be kept up; and in the end the trustees of the school advised a discontinuance of the shop. After ten years they were ready to disaffirm what had before been so joyously announced, and to admit that "the efforts to provide permanent employment for the blind have not been crowned with success."[3] In 1857 they stated that the shop had continued operations, but—

> At a heavy loss to the institution, and the experience of some years has now been fully demonstrated that sharp competition of seeing workmen backed by the capital of employers, engaged in the various trades, puts it out of the power of the institution to conduct this department on a scale in any way commensurate

[1] Laws, 1848, ch. 193; 1857, ch. 278. Appropriations were usually from $8,000 to $15,000, it often being a condition that an equal sum be secured from private sources.

[2] W. B. Wait, "Effort and Progress," 1908, p. 6; *Charities and the Commons*, xvii., 1906, p. 147.

[3] Report, 1856, p. 7. "From the causes already alluded to, there is little or no sale for its manufactures, and great pecuniary embarrassment is the necessary result." Message of Governor of New York, 1855, p. 11.

with the wants of the blind, without incurring a loss which our funds are by no means adequate to meet.[1]

Finally, in 1860, after the last of persistent and tenacious efforts, and when "the results had proved so disastrous" as to cause the losses to mount to a large sum,[2] the legislature was appealed to to put an end to the situation. This it did in 1862, repealing the laws relating to the shop;[3] and so after an existence of a little less than a score of years, the industrial department of the institution came to a close.[4]

Immediately after the dissolution of this shop, another experiment was tried in the city of New York in the way of industrial aid for the blind, which was intended to be a more practicable substitute. In 1862, the year that the shop was abandoned, a charter was granted to the New York Blind Mechanics' Association, an independent organization, which was to furnish a mechanical education to the blind, and to assist in procuring employment for those found capable, besides carrying on a few trades. Small

[1] Report, 1857, p. 6. In the report for the next year it is stated that the department "has continued a deadweight, and experience has now fully demonstrated that it is impossible to conduct it in any way commensurate with the needs of the blind, without incurring a loss which it is impossible to sustain for any length of time." *Ibid.*, 1858, p. 9. Nor could private benevolence, generous though it was, be greatly depended upon. "Experience has shown that this feeling can be relied upon only to a limited extent." *Ibid.*, 1856, p. 8.

[2] Special Committee of New York Institution, Review of Efforts of the New York Institution to Instruct its Pupils in Mechanical Trades, and to Maintain a Manufacturing Establishment in Connection with its Educational Work from 1832 to 1885. See also Report of New York Institute, 1901, p. 20.

[3] The property used for industrial purposes was ordered to be sold. Laws, 1859, ch. 629.

[4] The wages paid in the establishment were high, being said to be 25 per cent above those usually paid for the same labor. They usually amounted to from five to ten thousand dollars a year. Industries to the number of sixteen were tried, including willow basket making, mattress making, carpet making, paper-box making of several descriptions, door mat making, curled-hair making, weaving, etc. About 25 men were given employment at a time. At one time the institution was said to have developed into five departments: a school for the young, an industrial training school, a shop, a boarding department, and an asylum. In 1855 all employees were required to live outside. Annual losses were usually several thousand dollars. From 1848 to 1860 they amounted to $20,622. Report of New York Institute, 1860, p. 11. See also *ibid.*, 1854, p. 15; W. B. Wait, *op. cit.*; *Charities and the Commons*, xvii., 1906, p. 140; *National Magazine*, x. 1857, p. 253.

appropriations were made by the legislature from time to time, while aid came from the city and from private sources. After some eight years this plan was also given up as a failure.[1]

The Pennsylvania Institution seems to have considered a "home" or "retreat" for the employment and maintenance of former pupils very soon after its founding, though the measure was not found feasible till 1851.[2] For its first few years the department seemed to enjoy a degree of prosperity, it being declared that "the undertaking has completely succeeded,"[3] and that "the successful results are before us."[4] In 1863 it was announced that "the practical working of the 'home' after twelve years of experience has been entirely satisfactory."[5]

In the course of time, however, this establishment also began to meet other fortunes. Deficits commenced to appear; and it was decided to relinquish the shop feature, which was done after nearly a score of years of its existence. One reason for this action was that another arrangement had already come into being, and the need of the shop was no longer so evident. Two independent institutions with more or less industrial features had been established in

[1] Laws, 1859, ch. 278; 1862, ch. 411; 1863, ch. 210; 1864, ch. 401; 1865, ch. 641; 1867, pp. 1158, 1254; 1868, chs. 817, 853; 1870, ch. 383. At one time the supervisors of New York County were authorized to levy a tax of $10,000 for the benefit of the Association. Laws, 1864, ch. 551. This organization was in considerable part founded to receive a grant of $8,000 from the legislature, on the suggestion of the New York Institute, which amount was to be available when an equal sum was secured from private sources. The city gave the rent of a building free. The Association had an independent board of trustees, and was capitalized at $25,000. The grants from the State were usually $5,000 a year. Including private gifts, some $71,000 was said to have been received in the course of ten years. Constitution and By-laws of New York Adult Blind Association, 1877, p. 7. The average number of employees was about 45, care being taken to secure experienced men and women as far as possible. The Association underwent considerable vicissitudes before being abandoned. On its work, see Senate Documents of New York, 1865, no. 22; Assembly Documents, 1867, no. 57; W. B. Wait, *op. cit.*, p. 7.

[2] See Report, 1843, p. 6; 1846, p. 10; 1850, p. 16; 1851, p. 11; 1853, p. 26; 1854, p. 16; 1858, p. 16.

[3] *Ibid.*, 1860, p. 10. Further good of the undertaking is pointed out: "The tone of the school is really elevated by the presence" of those received. *Ibid.*, 1861, p. 5.

[4] *Ibid.*, 1861, p. 6.

[5] *Ibid.*, 1863, p. 13.

Philadelphia, one for men and one for women; and the policy was adopted of allowing no more new admissions into the "home" in connection with the school, which in 1883 was abandoned altogether.[1]

Another school maintaining an industrial department was that in Maryland, which had quite an extended career. It was started in 1858 for the benefit of certain of the graduates, and in 1874 enlarged into a shop for other adults as well, the latter arrangement being expressly authorized by the legislature.[2] In this case enthusiastic hopes as to the outcome of the venture were not indulged in. After an experience of a few years it was asserted that "the shop may still be regarded in the light of an experiment," and that "the past year has not been encouraging."[3] Finally, the school was ready to make the avowal that it was "satisfied that the necessity for workshops for the adult blind does not exist in this State."[4] The result was the abandonment, after a brief trial of four years, of the industrial feature for adults. The school, however, retained a department for certain of its graduates till 1908, when a distinct public establishment was created.

In certain other States schools for the blind attempted to carry on industrial departments on a small scale for graduates or other adult blind persons for a longer or shorter period, only after a few years to discontinue them. Among

[1] The industrial department is referred to in nearly all the reports of the period. It was called both a "home for the industrious blind" and a "retreat," often being designated as the "home department" of the institution. Wages amounted to several thousand dollars a year, a minimum wage sometimes being $164. Most of the inmates were women. It was originally intended to receive not more than ten men or ten women at one time. A few of the inmates accepted at an early date were allowed to remain at the institution during their lifetime.

[2] Laws, 1874, ch. 236. The school was directed to use part of its funds for the purpose. It first asked for a public appropriation for 20 of its pupils. See Report, 1857, p. 8; 1858, p. 8; 1871, p. 10; 1872, p. 11; 1874, p. 10.

[3] *Ibid.*, 1876, p. 9. See also *ibid.*, pp. 10, 16, 23; 1875, p. 10.

[4] *Ibid.*, 1878, p. 10. See also *ibid.*, p. 18; 1875, pp. 16, 35. One reason advanced for the discontinuance of the shop was that there was a lack of capital sufficient to carry on operations, and that some of the blind found themselves able to get more by begging. The number of employees at one time did not often exceed a dozen. On this shop, see *ibid.*, 1911, p. 7; 1913, p. 7; *Outlook for the Blind*, ii., 1908, p. 3.

these were the schools in Illinois,[1] Louisiana,[2] Michigan, and Missouri,[3] and the New York State School. In several States, in addition, the matter was considered or was proposed.[4]

Here is practically brought to an end our recital of the efforts of the schools to create and conduct shops in connection with their regular work of instruction, the plan being subsequently attempted in but one or two instances. In most cases these industrial departments were of experimental character, and of but rather brief duration. In those whose experience was of rather protracted extent interesting and valuable object lessons are presented. In their first accounts are displayed hope and even enthusiasm as to their expected results, coupled with able and earnest endeavor, which later gave way to discouragement, and to the admission that it was not a wise procedure on the part of schools to attempt to offer industrial facilities to the adult blind.[5] On the whole, then, it may be said that these early efforts of the schools met with but little success: their greatest service consists in the lessons which they have placed before us.

Development of Shops as Independent Undertakings

With the way pointed and the example set by the schools in their industrial activities, there remained the possibility

[1] See Report of Illinois School, 1872, p. 6.

[2] In 1871 the "School and Industrial Home for the Blind" was organized, under which name it remained for several years. In 1877 the separation of the industrial department was asked for. Only a few men were provided for in it. See Report of Louisiana School, 1869, p. 15; 1870, p. 13; 1873, p. 72 (quoting from *New Orleans Times*, Oct. 24, 1873); 1877, p. 10; 1886, p. 5; History of Louisiana School for the Deaf, 1893, p. 6.

[3] See Report of Missouri School, 1855, p. 12; 1862, p. 3.

[4] See Report of Tennessee School, 1855, p. 58; 1859, pp. 5, 11; 1861, p. 9; 1871, p. 12; Kansas School, 1884, p. 7; *Institution News* (Texas School), Dec., 1892. See also Report of Arkansas School, 1880, p. 21. In California, Iowa, and Ohio, as we shall see, the proposal mainly took the form of an independent plant. In New York and Pennsylvania special shops were proposed instead of second schools.

[5] With respect to the efforts of certain schools, it is stated that they "have each had a long, trying, and costly experience in this matter." Report of New York Institute, 1901, p. 21. See also *National Magazine*, x., 1857, p. 252; *World Today*, xvii., 1909, p. 941.

of the creation of shops as independent affairs, under public or private auspices, which was to be the course henceforward. The first establishment of the kind to be put into operation was the Pennsylvania Working Home for Blind Men, which was opened in Philadelphia in 1874, being in fact partly the outgrowth of the work department originally started at the Pennsylvania Institution. It still continues as a private concern, though it has received aid from the State.[1] The next undertaking was in Louisville in 1882, this being known as the Kentucky Manufacturing Establishment for the Blind. It continued operations for about a dozen years.[2]

The first direct public measure was the creation at Oakland in 1885 of the California Industrial Home of Mechanical Trades for the Adult Blind. This institution has been regularly supported by the State to the present.[3] Within the next five years four establishments came into being, only one of which, however, has been of a durable character. In 1886 the State of Ohio established an industrial home at Iberia, which lasted for ten years.[4] In 1887

[1] See Laws, 1881, ch. 159; 1885, p. 281.

[2] Laws, 1882, p. 256. This was a private stock corporation, capitalized at $25,000, under a board of nine trustees. All its property was made free from taxation. It received certain State aid, especially in the use of a building, as well as assistance from private sources. See *Kentucky Mfg. Establishment for the Blind v. Louisville Trust Co.*, 16 Ky. Law Rep., 131, 26 S. W., 582 (1894). It admitted about 35 men, and gave much attention to industrial training. See also *Mentor*, i., 1891, p. 160.

[3] Laws, 1885, p. 18; 1887, p. 160; 1889, p. 147; 1907, p. 790; 1913, p. 806; Pol. Code, 1915, §§ 2207–2207k. This resulted in large part from the attempts of the adult blind to enter the State school, and it may to some extent be regarded as a continuation of the work of the latter. For two years both institutions had the same board of trustees.

[4] Laws, 1886, p. 136; 1896, p. 370. The first appropriation was of $10,000. The land and building, with $5,000, were given by the city. It was when the building burned that the State decided to discontinue the shop. The government was in the hands of a board of three trustees. The greatest number of inmates at one time was 30. The shop was largely the result of a campaign conducted by former pupils of the State school, and the location first planned was Columbus. Not many years after the school was started, it had proposed an "asylum for the industrious blind," at one time the city of Cincinnati being suggested as a desirable place for it. See Report of Ohio School, 1846, p. 9; 1848, p. 13; 1852, p. 13; 1881, p. 14; 1890, p. 18; 1891, p. 15; 1895, p. 102 (5th reunion of former pupils); Report of Ohio Board of Charities, 1892, pp. 25, 69; O. C. Brown, "Legal Wrongs against the Blind," 1886, p. 25; J. W. Welch, "Abilities and Achievements of the Blind," 1905, pp. 104, 396.

Illinois did likewise, creating the Illinois Industrial Home for the Blind at Chicago, this continuing to the present.[1] In 1888 a private establishment was opened at St. Joseph, Missouri, which was of only a few years' duration.[2] In 1890 the State of Iowa created an industrial home at Knoxville, which suffered the fate of its Ohio prototype, being given up after an existence of ten years.[3]

From this time on nearly all the shops that have been started have continued to the present. The year 1893 saw the establishment of two of them, the Connecticut Institute for the Blind (Industrial Home) at Hartford,[4] and the Brooklyn Industrial Home for the Blind in New York.[5] Both of these are private affairs, though the former is supported in large part by the State, and the latter receives certain small public grants. In 1899 a private establishment, the Indiana Industrial Home for the Blind, was

[1] Laws, 1887, p. 25; 1912, p. 66; Stat. Ann., 1913, §§ 1032–1043. Actual operations did not commence till 1894.

[2] Report of Missouri School, 1889, p. 18.

[3] Laws, 1888, ch. 190; 1890, ch. 53; 1892, ch. 51; 1898, ch. 118; 1900, ch. 103; 1904, ch. 80. This industrial home was in great part due to the efforts of the alumni of the Iowa School. It was largely a farm colony, the city giving 50 acres of land at the opening, where instruction was afforded, as well as opportunities for self-support. It was directed by a board of six trustees until 1898, when the State board of control assumed charge. All adults who could claim legal residence in the State were entitled to admission, the actual number of inmates being about 40. Board was charged for at the rate of $2.25 a week, which was afterward fixed at $10 a month. When the home was brought to an end the inmates owed $5,740 for board and lodging. At the close the farm was directed to be leased, and the personal property sold. In 1903 the grounds were turned into a home for inebriates. When the inmates were sent home, each was given the sum of $25. See Report of Commissioners in Relation to the Industrial Home for the Adult Blind, 1889, p. 4; Proceedings of Minnesota Conference of Charities and Correction, 1809, p. 62; Report of Iowa Board of Control, 1901, p. 110. Shortly after the State school had been established, suggestion was made of an industrial home. Report of Iowa School, 1869, p. 19; 1871, p. 11; 1875, p. 19; Message of Governor, 1870, p. 17. In 1870 an appropriation of $2,000 was made for the school, which was authorized to conduct an industrial home, "open to blind persons of the State who shall be dependent upon their own labor for support, and who, in the opinion of the trustees, shall in other respects be proper subjects to be admitted into that department of the institution." Laws, 1870, ch. 79.

[4] Laws, 1893, ch. 156; 1895, ch. 303; 1899, ch. 218; 1901, ch. 164; 1905, ch. 66; Gen. Stat., 1902, §§ 2285–2295. See also Report of Connecticut Board of Charities, 1894, p. 56.

[5] It is provided in the charter of the city of New York that the sum of $2,500 annually be granted. Laws, 1897, ch. 378, § 230; 1901, ch. 466, § 230.

started at Indianapolis, which in 1915 was adopted by the State; [1] and in 1900, the Columbia Polytechnic Institute for the Blind at Washington, which receives some aid from Congress.[2]

In 1903 two establishments were created under public direction: the Michigan Employment Institution for the Blind at Saginaw,[3] and the Wisconsin Workshop for the Blind at Milwaukee.[4] In 1904 a shop was opened at Cambridge, Massachusetts, now with two branches, and in 1905 at Pittsfield, both under the auspices of the Massachusetts Association for the Blind. In 1906 these were taken over by the State commission; and in 1908 others were established by it at Lowell and Worcester, and in 1909 at Fall River. In the year 1906 four shops were started in two other States, all by local associations for the blind: at New York City and Buffalo in New York, and at Cleveland and Dayton in Ohio. The last named shop was discontinued in 1916. In 1907 the State of Colorado established at Denver the Colorado Industrial Workshop for the Blind; [5] and in the same year a private establishment, with State aid, the Maine Institution for the Blind, was opened at Portland.[6] In 1908 the State of Maryland created at Baltimore the Maryland Workshop for the Blind, this being in a measure a continuation of the shop which had been in connection with the school.[7] The same year a private shop was started at Wilmington, Delaware, the Industrial Exchange for the Blind, now assisted by the commission. In 1911 shops were opened by associations at

[1] Laws 1915, chs. 59, 170; Ann. Stat., Supp., 1918, §§ 3492a–3492m.

[2] See *Washington Life*, April 8, 1905. The sum of $5,000 was allowed by Congress at the time.

[3] Laws, 1903, no. 169; 1907, p. 513; 1913, no. 269; Ann. Stat., 1913, §§ 3811–3828. See also Report of Michigan School, 1898, pp. 3, 16; 1900, pp. 7, 14.

[4] Laws, 1903, ch. 432; 1905, ch. 345; 1907, chs. 118, 506; 1913, ch. 773; Stat., 1917, §§ 572a–572c.

[5] Laws, 1907, p. 217; 1913, p. 639; 1915, p. 355; Ann. Stat., 1912, §§ 5039–5048. See also Report of Colorado Board of Charities and Corrections, 1904, p. 129. The shop was opened in 1912.

[6] Laws, 1907, p. 1440; 1909, p. 1248; 1913, p. 921.

[7] Laws, 1908, ch. 566; Ann. Code, 1911, pp. 816, 817.

Pittsburg, Pennsylvania, and Trenton, New Jersey, the former being later given certain public assistance. In 1912 private establishments were started at Cincinnati, Ohio, Brooklyn, New York, and San Francisco, California, and a public one at Columbus, Ohio. In 1913 a private shop was started at Albany, New York; a shop at St. Louis, Missouri, in 1916 adopted by the State commission; the Kentucky Workshop for the Blind, at Louisville, in connection with the State school; and a public shop at Portland, Oregon. In 1914 a private shop with State supervision was opened at Glens Falls, New York, which was discontinued in 1918. In 1915 the Alabama Industrial Home for the Blind was established by the State at Birmingham.[1] In 1916 shops were started under private organizations at St. Louis, Missouri, and Chicago, Illinois. In 1916 also a shop was opened at Rochester, and in 1917 at Syracuse, New York, both under the joint auspices of local associations and the State commission. In 1918 a shop was created at Nashville, Tennessee, by the State commission.[2]

Manner of Creation of Shops and General Public Attitude toward Them

Such represents the history of the workshop movement for the blind in the United States. Starting with the attempts of certain schools to be of benefit to a larger number of persons than their pupils alone, but passing from them into independent establishments, it is found to have spread over a considerable part of the country. At first making headway slowly, but gathering strength in the course of time, it is seen to have reached its largest development in the years of the twentieth century. Some of the establishments brought into being have fallen by the way, but most have had an uninterrupted existence to the present. In the future an even greater progress is not unlikely to be witnessed.[3]

[1] Laws, 1915, p. 920. The shop was opened in 1917.

[2] In 1915 a commission was appointed in New Hampshire for the purpose of considering the advisability of creating a State shop. Laws, ch. 188.

[3] Industrial establishments are being planned in several other States. See Mes-

The principle of the workshop may be said to have been accepted, theoretically at least, and for a longer or shorter time, by all workers for the blind. Indeed, it has often happened that on the formation of a private or a public body to deal with the problems of the blind, the first undertaking to receive consideration has been the opening of some sort of industrial establishment, sometimes at the first opportunity to be offered. When it has come to the actual creation of workshops, by whatever agency, there have usually been three great difficulties to be faced: want of sufficient interest in the matter on the part of the general public, doubt as to the feasibility of the project, and reluctance to the incurring of the expense demanded by the project. Yet when appeal has been made to private philanthropy or to public authority, and the urgency of the undertaking has been fully presented, there has usually been a sympathetic ear extended. In the further all-important matter of securing the requisite funds, no small labor has been called for; but with earnest and persistent exertion the desired aid has not often failed to be forthcoming.

In the efforts to create the shops credit is to be variously bestowed. To the devoted endeavors of certain individuals, both blind and sighted, much is to be accorded. Without their patience and determination not a few of the shops established would never have come into being. A very great part has been played by the interest of the State schools; and in later years also by that of societies concerned in the welfare of the blind, these often attending to the financing of the undertakings. Help has been lent in addition by certain civic bodies, especially women's clubs. Perhaps, however, the main work has been done by the activities of the blind themselves, either individually or collectively, the graduates of the State school sometimes displaying particular assiduity.[1] In some cases a

sage of Governor of Texas, 1917, p. 7. In certain States commissions for the blind are given power to create shops if deemed advisable.

[1] Notable work has been accomplished by the State associations of the blind in Indiana, Maine, Maryland, and Michigan. In the case of a few private establish-

considerable amount of agitation, a part often in public meetings, has been necessary to focus public attention upon the matter, and to assure the required financial backing. Only occasionally has there developed any positive opposition to the project, though now and then a protest has been voiced by certain labor interests under the belief that a new source of competition was entering the market.[1]

The declared object of the workshops has been in general two-fold: to provide a place where the blind could have facilities for industrial training, and to provide a place where they might be engaged at work in order to help contribute to their own support. The aim of that in Illinois is thus given in the statute by which it is created:

> To promote the welfare of the blind by teaching them trades and affording them a home and such employment as shall best tend to make them self-supporting, and consequently independent, using therefor the best known means and appliances.

With respect to that in California it is stated:

> The objects of the Industrial Home for the Adult Blind are: first, the instruction of such blind admitted thereto in some

ments, fairs and other entertainments have been given to raise funds. In Maine a petition bearing 50,000 names was presented to the legislature, praying for action. In more than one State the Governor has manifested a keen interest in the movement, and has done much to secure a law providing for a shop. In the appeal of the Governor of Wisconsin to the legislature allusion is made to "the vain attempts to find some authority in the law whereby worthy citizens and industrious mechanics deprived of sight by accident could obtain other means of existence than those to be found through private charity or the county poor-house." Message, 1903, p. 80. See also Message of Governor of Iowa, 1890, p. 26. On general efforts to secure workshops, see *Problem*, ii., 1901, p. 87; iii., 1902, p. 88; iv., 1903, p. 32; Report of Ohio School, 1905, p. 116 (8th reunion of former pupils); J. W. Welch, "Abilities and Achievements of the Blind," 1905, pp. 104, 396; J. C. Mills, "Searchlights on American Industries," 1911, p. 273; Proceedings of American Association of Workers for the Blind, 1909, pp. 29, 33; Program of 3rd Annual Entertainment of Benevolent, Literary, and Musical Society of the Blind of Chicago, 1886; *Talks, Tales, and Public Opinion*, Jan., Nov., 1904; Report of Michigan Employment Institution, 1908, p. 9; 1912, p. 72; 1914, p. 34.

[1] A bill allowing State aid to the establishment in Indiana was vetoed by the Governor, owing to the antagonism of the labor unions. Proceedings of American Association of Workers for the Blind, 1905, p. 35. In Ohio opposition is stated to have come from the broom-makers of the State. Report of Ohio School, 1895, p. 103 (6th reunion of former pupils).

trade or trades, to enable them to contribute to their own support; and second, the furnishing of a working home for the adult blind who after learning a trade or trades desire to remain in the home as workers.

In Michigan the industrial home is to be afforded "for the care, training, and employment of the blind," which is to consist of "an industrial or polytechnic school and factory, a working home and employment bureau, and a consulting library." In Wisconsin it is set forth that the indigent blind are to have work and be taught a trade.

At the beginning of the movement with independent establishments there was, as had been the case with those created in connection with the schools, in many quarters entertained the hope that their way would be attended with success, though that this confidence was not shared in on all hands we have already had occasion to notice. A prevalent conception regarding the situation is found in the observations made in a preliminary investigation by a commission of the State of Iowa before the creation of an industrial home in that State. After the quoting of encouraging accounts from other States, it is declared that —

> From all sources, educational as well as industrial, to which the commission has applied, comes the universal recommendation for the establishment of a working home for the adult blind.[1]

A similar impression of the possibilities to be offered is met at the start of the shop for the blind in Wisconsin, where it was—

> Believed that if a place and some suitable appliances were furnished them, they could so compete [*i. e.*, with the seeing], and be self-supporting.[2]

After the shops had commenced their operations and the results from them had become known, there was experienced

[1] Report of Commissioners in Relation to the Industrial Home for the Adult Blind, 1889, pp. 4, 6, 8. See also Report of Ohio Board of Charities, 1802, pp. 25, 66.

[2] Report of Wisconsin Board of Control, 1904, p. 435.

in not a few instances a reaction analogous to that experienced in connection with the undertakings conducted by the schools. In some cases criticism of several kinds has been evoked, and doubt has been expressed as to the actual good accomplished, such feeling being all the more pronounced with respect to establishments having a boarding feature in connection. This has been mainly due to the fact, already discovered by the schools, that the expectations of those responsible for the creation of the shops were higher than were to be justified—and in part, doubtless, to sentimental considerations, which had been allowed to overbalance practical considerations in the whole matter. An example of the revulsion of sentiment may be seen in the Message of the Governor of California not long after the opening of the industrial home in this State:

> I am sorry to say that it has not so far fulfilled the expectations of the promoters. It was stated, when the bill creating it was pending, that it would soon become self-supporting.[1]

Particular sources of dissatisfaction have also been found in the narrow range of occupations afforded, and in the apparently high expense involved. Now and then discontent has grown to such an extent as to call forth a comment like that of the State Board of Charities and Corrections of California, that "the institution is almost a poorhouse, and our method is pauperizing the inmates."[2] In Illinois the breaking up of the establishment was even at one time advised:

[1] Message, 1887, p. 13. In respect to the defunct enterprise in Iowa, it has been stated: "When the industrial home for the blind was established, it was believed that it would be largely self-supporting, by furnishing employment for the inmates, and a schedule of prices to be charged for labor was proposed by the board of trustees. . . . Unfortunately, the expectations of the friends of the home were not realized, manufacturing was carried on at a loss, and the inmates were not able to pay for their board and lodging." Report of Iowa Board of Control, 1901, p. 112. See also Report of Ohio School, 1895, p. 102 (6th reunion of former pupils).

[2] Report, 1910, p. 25. For an expression of dissatisfaction over the high cost of the enterprise, see Message of Governor of Illinois, 1905, p. 40. With respect to the industrial home in Illinois a more recent statement is that "as an industrial institution it has been a complete failure. It has become a State home for a privileged dependent class." Illinois Institution Quarterly, ix., 1918, 2, June, p. 83. See also *Cincinnati Globe*, Sept. 20, 1918.

The only conclusion to be reached is that the home as an industrial institution should be abandoned, and some more economical plan devised for the care of the inmates.[1]

Yet notwithstanding the criticisms directed from time to time, and in one quarter and another, at the establishments, there has usually been for the great number of them general sanction and approval. Even where entire commendation of their conduct and results could not be given, there has rarely been withholding of sympathy for the purposes which have underlain the undertakings, and for the efforts which have been put forth to make them successful.[2] When once the public has come to understand the difficulties under which the shops have to labor, its attitude is seldom one of disparagement, but generally one of cordial good will and support.[3]

[1] Report of Illinois Board of Charities, 1904, p. 12. Complaint in this case arose mainly from the belief that the home cost annually $475 *per capita*, while the inmates could be maintained on a strictly charitable basis for $175.

[2] Thus, four years after the expression of opinion in Illinois, quoted above, there was a change in the attitude, and faith in the future of the home was manifested. "We believe it should not be abandoned, but there should be given reasonable opportunity to demonstrate its right to exist. It has certainly made good progress during the last two years." *Ibid.*, 1908, p. 72. See also "Some Facts concerning the Michigan Employment Institution for the Blind," 1906; *Boston Herald*, June 18, 1898; *Hartford Times*, Feb. 19, 23, 1905; *Hartford Globe*, Feb. 26, 1905.

[3] Disapproval has been most readily evoked from the want of strictly business-like management, and from the introduction of political influences for in certain instances "politics" has been allowed to play a baneful part.

CHAPTER XXXIV

ORGANIZATION AND RESULTS OF PRESENT INDUSTRIAL ESTABLISHMENTS

Forms of Establishments

We find that there are at present in operation in the United States some thirty-nine industrial establishments for the blind.[1] They are situated chiefly in the East and the Middle West, being in the States of Maine, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Ohio, Indiana, Illinois, Kentucky, Alabama, Missouri, Michigan, Tennessee, Wisconsin, Colorado, Oregon, and California. In New York and Massachusetts each there are seven, in Ohio three, and in Pennsylvania, Missouri, Illinois, and California each two. In Massachusetts, and in part in New York, the arrangement consists largely of a number of small centers, or of a chain of shops.[2]

All told, we have four forms of industrial establishments. The first is the simple industrial school, where the blind are given training in some trade or trades, though as a matter of fact the operations of such an establishment are likely to be extended to include greater or less provision for the actual employment of some of the learners. The second is the workshop as such, which is conducted as an ordinary shop or factory, the employees coming to it each day to work and returning to their own homes at the close. In such an establishment the blind are theoretically on the same industrial footing as regular factory operatives. The

[1] There are possibly a few other small establishments in connection with the work of some association or other organization for the blind.

[2] In several States, as New Hampshire and North Dakota, blind persons may be sent to other States for industrial training.

third form is best known as the industrial home, which, as its name indicates, contains a home for the blind to live in as well as a shop for them to work in. It is as a general thing organized primarily to furnish a home for the blind, to which are later added industrial features, though it may be that the two-fold arrangement is introduced at the beginning. The fourth form may be designated as the combination institution, embracing both an industrial home for those who live in the establishment, and a shop only for those who live out, that is, providing both a home and working place for the blind who live in, and a shop alone for day operatives. It is also partly the result of a home that has undertaken to serve other blind persons in the community who live outside, and partly the result of a movement to create a joint home and shop. In all a certain amount of training, or period of apprenticeship, is included.

Among these several forms of industrial establishments, the simple workshop is much the most common. It is provided in Alabama, California (San Francisco), District of Columbia, Illinois (private shop), Indiana, Kentucky, Maryland, Massachusetts, Missouri, New York (except Brooklyn Industrial Home), Oregon, Ohio, Pennsylvania (Pittsburgh), Tennessee, and Wisconsin. Of the training institutions, the leading examples are in Connecticut, Maine, and Ohio (Columbus), with a number of other shops having the feature to an extent.[2] There are three instances of the industrial home: in California (Oakland), Colorado, and

[1] Often also persons becoming too old to work are given a place in the homes.

[2] To these may perhaps be added certain schools which allow industrial training to a few adult persons. In Minnesota a special summer school for adults was started in 1906, in Washington in 1915, and in Wisconsin in 1917. In Wisconsin this is expressly authorized by law. Special appropriations are sometimes made for the purpose. In Minnesota men remain 10 weeks, and women 4, none being allowed to attend more than 4 sessions in all. The total number in one year is usually less than a score. On this work, see Report of Minnesota School, 1906, p. 23; 1908, p. 14; 1910, p. 41; 1914, p. 14; Report of Minnesota Board of Control, 1906, p. 126; Proceedings of American Association of Instructors of the Blind, 1906, p. 3; Proceedings of American Association of Workers for the Blind, 1911, p. 20; *Colorado Index* (Colorado School), Jan., 1907; *Northwest Medicine*, xv., 1916, p. 87.

Michigan.[1] The combination institution is met in the cities of Brooklyn (Industrial Home), Chicago (Industrial Home), Philadelphia, Wilmington, and Trenton. The shops in Maine, Maryland, Michigan, and Wisconsin have additional duties in respect to the blind, being directed by law to conduct a circulating library, home teaching, or other work.[2] In a number of shops the teaching of raised print is expected or required.

Direction of the Establishments

Establishments under public auspices slightly predominate over those under private. Controlled directly by the state are the ones in Alabama, California (Oakland), Colorado, Illinois (Industrial Home), Indiana, Kentucky, Maryland, Massachusetts (under commission), Michigan, Missouri (under commission), Ohio (Columbus), Oregon, Tennessee, and Wisconsin. The shops in the smaller cities of New York are under the joint operation of local associations and the State commission. The establishments in Connecticut and Maine, while nominally private, are really semi-public affairs in that they are largely subsidized by the state. Other establishments are also to a certain extent assisted by public funds: those in Pennsylvania and Delaware by the State and city; in Brooklyn, New York, by the city; and in the District of Columbia by the Federal Government. The remaining shops are entirely private affairs, with their income derived solely from private sources.

The establishments are as a rule governed by special

[1] To these may be added some of the regular homes for the blind, especially those at Cincinnati, Washington, Philadelphia (Industrial Home for Blind Women), New York City (Staten Island and Manhattan), Jersey City, Bayonne, Worcester, St. Louis, Nashville, and Des Moines. Such have, as we have seen, enlarged their operations to give more or less remunerative employment to certain of their inmates. In a few cases day operatives are also admitted. Mention is also to be made of the centers of some of the associations for the blind, especially of those in New York City and Massachusetts, in which remunerative employment is often given, besides the affording of training.

[2] In Maine the granting of permanent support to any blind person is expressly forbidden.

boards of trustees, the public ones usually having from three to seven members, and the private ones more.[1] In the case of the former, appointments are generally made by the Governor, often with the consent of the State Senate.[2] In Illinois (Industrial Home) and Wisconsin direction is in the hands of central State boards. The shops are in the hands of commissions for the blind in Massachusetts (except that under Perkins Institution), Tennessee, Indiana, Delaware, Missouri (one shop), and Ohio (Columbus). The shop in Oregon is under the department of education of Portland. In Connecticut the establishment is a part of the Connecticut Institute for the Blind, and in Kentucky under the supervision of the State school. The shops in Cleveland, Cincinnati, New York (Manhattan), Buffalo, Trenton, San Francisco, Chicago (one shop) are conducted by local associations for the blind; that at Pittsburgh, by the State association; and one in St. Louis, by the State organization of the blind. One establishment in Brooklyn is under the Association for Improving the Condition of the Poor. The establishments of a public character are as a rule inspected by the State boards of charities, which is also the case with most of the privates ones.

Expense of the Establishments

The cost of the establishments for the blind is met from two sources: the returns from the sales of articles, which are of a purely commercial character, and the receipts from sources not connected with their operations, which are

[1] The number is 3 in Colorado and Michigan; 5 in California, Illinois, and Maryland; 7 in Alabama; 13 in Pennsylvania (Philadelphia); 15 in New York (Brooklyn); 21 in Connecticut; and 25 in Maine.

[2] In Maryland 3 members are appointed by the Governor, and 2 selected by the State school. In Michigan the Governor is a member *ex-officio* of the board. It is often required that a certain number of the members live in the locality of the establishment. Sometimes a blind person is made a member, this being obligatory in a few instances. In several cases there are auxiliary boards of women. On the powers and duties of boards of directors, see *Tuck v. Board of Trustees of Industrial Home*, 106 Cal., 216, 39 Pac., 607 (1895); *Illinois Industrial Home v. Dreyer*, 150 Ill. App., 574 (1909); *Consolidated Coal Co. v. Board of Trustees of Michigan Employment Institution*, 164 Mich., 235, 129 N. W., 193 (1910).

largely of the nature of bounties. If the shops were self-supporting, they would have only the former means, or their "profits," to carry them on. But they do not in practice prove capable of standing by themselves. In addition to their earnings from the market, they must look to other sources for aid. The amount of such assistance required varies with the different establishments, some coming much nearer to an even balance than others. In some cases the losses incurred in the venture have been considerable, which is especially likely to be true where industrial homes are concerned, that is, where a home is provided for some of the blind as well as industrial facilities.[1]

At present the total annual cost of the shops amounts to perhaps eleven hundred thousand dollars. Of this sum possibly eight hundred thousand is derived from the proceeds of sales. There is thus left a deficit of some three hundred thousand dollars, which has to be made up from "outside" sources. This may come either from public appropriations or from private contributions, or in certain cases from both. The amount of such aid to the several establishments ranges from a few hundred dollars a year to some thousand dollars, sums of more than twenty-five thousand dollars being exceptional. The largest recipients are generally the establishments having homes in connection. The actual cost of the establishments, however, is increased by the sums that were employed at the beginning, especially in the purchase of a site and in the erection of buildings, which may be called the initial outlay.

The public institutions receive their funds for the most part in lump appropriations, which are usually from $7,500 to $35,000 a year, depending on the size of the plant, and also in part on the inclusion of a home department. In a few cases there is also aid from the city. Of the amount allowed to the commission for the blind in Massachusetts, about half is to be devoted to the use of the shops. Most of

[1] In such establishments the aged and infirm are also provided for, who as a rule are unable to work and contribute to the general support.

the establishments subsidized by public funds receive grants only less than those received by the regular public shops. In case the grants are from both State and city, those from the former are usually considerably the larger. In Connecticut, Alabama, and Wisconsin the annual appropriations are upon a *per capita* basis, being $300, $100, and $75, respectively. The private shop in Missouri is subsidized by the State commission. In addition, there are grants from time to time for the betterment of the physical plant or equipment. In the case of certain public establishments there are occasional gifts from private sources.[1]

The amounts donated to private establishments, apart from those made at the start for the creation of a plant, are rarely large, unless the establishments happen to be a part of the general work of associations for the blind. With such exception, contributions probably do not much exceed two or three thousand dollars a year in any one case, or fifteen or twenty thousand dollars in the aggregate.[2]

In addition to these appropriations and donations, we find the shops assisted indirectly in other ways. As a general thing they are absolved from the payment of any form of tax or license fee. Some are also relieved from the payment of charges for the rent of quarters, while heat, light, and other accessories are often furnished free. In Michigan, Massachusetts, and Indiana the "State use" system is employed, the several public institutions being required to purchase the products of the shop where needed at reason-

[1] A number of the public establishments are given express permission to receive donations.

[2] The establishments that have especially benefited from private contributions are those in New York (Brooklyn), Pennsylvania (Philadelphia), Connecticut, Maryland, Maine, Indiana, Delaware, and District of Columbia, together with that of the New York Association in New York City. In Maine about $10,000 was secured through concerts and other entertainments over the State. In Maryland about $50,000 was collected by two associations of blind persons. A few of the shops have endowment funds, especially those in Brooklyn and Philadelphia, the former having more than $50,000. Occasionally a legacy is left to an establishment. Sometimes land has been given for a site, usually by the city in which it was to be located, as in Indiana, Maine, and Michigan. In a few cases membership is open in the societies controlling the establishments on the payment of certain fees, as in that in Philadelphia, with $25 for life members, $100 for benefactors, and $500 for patrons.

able prices; and in the institutions of other States the wares of the blind are given preference to a greater or less extent.[1]

The value of all the plants employed in the industrial occupation of the blind is probably not less than one and a half million dollars, no allowance being made for a certain number housed in rented property. The value of individual establishments ranges from one or two thousand dollars for the smaller ones, to one hundred thousand dollars or even more for the larger. An institution with a home attached is likely to be a more costly one.

Regulations as to Admission into the Shops

There are often more applicants for admission into the establishments than can be accommodated; and in a few cases there are waiting lists, with perhaps a considerable number of names. For this reason it is sometimes necessary that those who are to be allowed to enter be carefully chosen.[2] On the other hand, not infrequently efforts have to be made to seek out blind persons who might be benefited by the shops, or at least to find them all, so that as many as possible of those who are fitted and for whom there is room may be drawn in. In certain States it is made the duty of local officials having to do with the poor to report the names of eligible blind persons.[3]

For the admission of inmates or workers few hard and fast rules are laid down. The shops are of course intended mainly for adults; and the matter of age is in general left to the discretion of the managers. In some instances a lower limit of eighteen is prescribed,[4] and in others of

[1] In Wisconsin willow is grown for the shop on the farms of the several State institutions, which materially reduces its cost.

[2] In Delaware the number aided by the State at one time is limited to 10.

[3] One shop has been declared not to be "an asylum for the permanent free maintenance of aged or helpless blind persons, or a hospital or infirmary for the cure or treatment of blindness or other maladies." Report of Superintendent of Public Instruction of Michigan, 1909, p. 66. See also *New Haven Register*, March 15, 1905. Sometimes the establishments are asserted not to be "blind men's hotels."

[4] As in Connecticut, Kentucky, Maine, and Maryland.

twenty-one.[1] There is usually no fixed period of residence, it being understood that this is chiefly conditioned upon the actual capacity for work. In a few cases a term is specified, as from eighteen to sixty, though limits of such kind are not rigidly adhered to.[2] In establishments which are primarily for trade instruction, and in the training departments of other establishments, a certain number of years are allowed for the acquiring of a trade, as two, three, or five.[3] In most cases it is required that the applicant for admission have been a citizen or resident of the State or of the city in which the shop is located for a minimum number of years.[4] It is also often demanded that the applicant be of good moral character.[5] In most cases the employees live outside the shops and in their own homes. In a certain number they live in whole or in part inside.[6] Where board is charged, whether nominally or actually, to those residing in, the rate is usually about $3 a week.

The homes are for the most part entirely free to those eligible to admission. In the case of the industrial homes there may be a formal requirement that payment be exacted of all inmates capable of rendering such, though in practice this regulation is seldom if ever strictly followed.[7] With

[1] As in Alabama, Colorado, Indiana, and Pennsylvania (Philadelphia). In the last named case it is preferred not to admit persons over forty-five.

[2] In Michigan the statutory age period is from eighteen to sixty, or above sixty when it appears advisable. At the instance of the State school persons from fourteen to sixteen may also be received. Of inmates in the establishment in Philadelphia at one time, 8.5 per cent were from 20 to 30 years of age; 16.1 per cent, from 30 to 40; 33.9 per cent, from 40 to 50; 30.5 per cent, from 50 to 60; 10.2 per cent, from 60 to 70; and 0.8 per cent, from 70 to 80.

[3] The number is 2 in Delaware; 3 in Colorado, Connecticut, Maine, and Michigan; and 5 in Alabama. In Wisconsin a reasonable time is permitted.

[4] In California and Colorado a previous residence of 3 years in the State is required; and in New York City, of 10 years in the city. In some cases persons from other States are received when special provision is made for them.

[5] Other qualifications are that the applicant be of "suitable physical and mental capacity," or of sound mind and body and free from disease. In Alabama only the white blind are admitted. In Missouri there is a separate department for the colored in one shop.

[6] In California (Oakland) practically all live in; in Colorado, Connecticut, Delaware, Illinois (Illinois Industrial Home), Maine, Michigan, and Pennsylvania (Philadelphia) most do; and in Brooklyn the smaller portion do.

[7] In the home departments of such establishments it is sometimes expressly pro-

certain public institutions, moreover, clothing and transportation may be furnished without cost to those otherwise unable to provide them. Such charges are usually defrayed by the county from which the beneficiary comes, though they are sometimes assumed directly by the State.

Number of Employees in the Shops

The number of employees varies in different shops. The largest have 150 or more, and the smallest 8 or 10, or even less, the average being about 35. In all the industrial establishments in the United States there are, according to the latest available statistics, about 1,386 persons. If we consider ten thousand as the number for whom industrial provision is possible to be made, disregarding those who might be given work outside of special establishments, it appears that only about 14 per cent of this number are afforded such employment.

Not all of these 1,386 persons, however, are to be regarded as real wage-earners. Nearly one-fifth, or about 270, are merely apprentices, who are being put in the way of later remunerative employment. Of the regular wage-earners, numbering somewhat over 1,100, not less than four-fifths, perhaps over 900, are men.

Industries Afforded in the Shops

The chief occupations carried on in the shops are the making of brooms, mattresses, baskets, hammocks, and rugs, and the caning of chairs. To a less extent are offered the making of feather dusters, brushes, hat frames, and a few other articles. In shops in which women work weaving, knitting, fancy work, and like occupations are the principal ones given. The making of brooms and of mattresses and the caning of chairs are the industries most largely engaged

vided that the aged and infirm be admitted without cost. In Wisconsin accommodations are to be afforded to the indigent for three months.

in, and in some of the shops are the sole ones followed.[1] To such an extent are they found among the blind that they may well be called their standard industries. Broom making in particular is an occupation peculiarly adapted for the blind, and so well is it established among them that it is often spoken of as "the blind man's trade." [2]

In certain establishments, however, particular industries are found to be engaged in more or less extensively. In Massachusetts much attention has been given of late years to the making of rugs and mops, though the other occupations are also carried on. In Wisconsin the making of willow-ware is the chief industry, and in the District of Columbia ink printing.[3]

Output of the Shops

The output of the several shops depends in the main upon their magnitude, the output of some of them being quite large. Brooms constitute the single article produced in the greatest quantities. The total number of brooms made in all the establishments in one year is not much under two million. Complete figures with respect to the number of chairs caned, mattresses renovated, and other articles manufactured would also be considerable. The products of certain of the shops have had rather wide sales.[4]

[1] The most practical work yet done in the way of testing out new industries for the blind is that of the association and of the commission for the blind in Massachusetts. In 1904 an experimental station was opened to determine what trades could be provided other than the conventional ones. In this way valuable service has been rendered. See Reports of the Association and the Commission. See also Proceedings of American Association of Workers for the Blind, 1905, p. 32.

[2] In certain establishments power machines for sewing brooms have been introduced, allowing one man to do the work of several.

[3] This does not include the setting of type.

[4] In a number of cases the products are employed in public or private institutions. The brooms manufactured in the California Industrial Home are in large use on western railroads, and are said to be sent over the world. It has even been declared of this shop that for some years it has been "unable to manufacture brooms sufficient to supply the demand." Proceedings of American Association of Workers for the Blind, 1907, p. 92; *Outlook for the Blind*, ii., 1908, p. 14. Its wares "find ready and constant sale." Report, 1888, p. 7. The brooms made in the Michigan Employment Institution are said to be "so good that people come back for a second order."

Receipts from the sale of articles likewise vary with the size of the establishments. They range from a few thousand dollars annually for the smaller ones to fifty or seventy-five thousand dollars for the larger. In the aggregate, receipts probably, as we have occasion to observe, amount to about eight hundred thousand dollars a year.[1]

Wages Paid in the Shops

The total amount paid in wages in one year to the blind in their industrial establishments is perhaps a little over a quarter of a million dollars. If the sales amount to eight hundred thousand dollars, it appears that about one-third of it thus passes to the blind in the form of wages. In some shops this proportion is higher, and in others lower. Two-thirds of the receipts of the products goes for material, "overhead charges," administration, sighted help, etc. The item of sighted assistance is, strictly speaking, to be included in the wage account; but from the point of view of the blind, it may be classified either as administration charges or as part of the general running expenses. Such aid constitutes from ten to thirty-five per cent of the working force, and may consume from one-fourth to nearly one-half of the full wage expense, compensation in this respect being determined by the regular market standards.

The wages paid to individual blind workers vary greatly, as we might expect. They depend mainly, within certain bounds which we have previously indicated, upon the capacity and energy of the employees. In some establishments a higher scale prevails than in others. In most cases

Report, 1908, p. 42. The willow-ware of the Wisconsin shop has become celebrated, and is sought in a number of department stores. The "wunder-mop" and other products of the Massachusetts shops have been ordered in many quarters. The rugs manufactured here are said to be "sold in most of the leading cities of the United States." The goods of a number of other shops are also reported to sell well.

[1] In some of the public shops all products are considered to be public property. In certain ones any balance after the payment of wages and other expenses is used for the further development of the undertaking, this often being called a "revolving fund." See Illinois Institution Quarterly, ix., 1918, 3, Sept., p. 102.

pay is for piece work, in a few being for both piece and time work.[1]

For men the wages range from one or two dollars a week to twelve or fifteen dollars, though the latter figures are very exceptional.[2] Ordinary weekly wages seldom exceed six or seven dollars, and usually do not average higher than four or five. The wages of women are much lower than those of men, being generally not more than one-half or two-thirds as large as the latter. In establishments where the employees are inmates, board is sometimes included as part of the wages. If a special rate is made for board and lodging, this is always small, being as a rule, as we have seen, close to $3 a week. For workers receiving very low wages there is employed in certain shops some form of a bonus or "augmentation" system, as previously described. In those of Massachusetts one cent is added to every two cents earned within the limits of two and six dollars.[3] In a few cases a flat minimum wage is established. This may range from $3 to $6 a week.

Actual Cost of the Establishments

As the last matter for our attention in connection with the industrial establishments for the blind, we may ascertain their actual or net cost. In respect to them there is no profit or interest to be earned; and all the receipts above the direct cost of running them, together with the purchase of material, go into the hands of the blind workers.[4] This cost, however, is not to be computed from the receipts of sales alone, which, as we see, are some eight hundred thou-

[1] In a few cases, as in Colorado, there is a formal requirement of an eight hour day.

[2] In the Philadelphia establishment there has been a nominal maximum wage of $12 a week.

[3] On wages of the blind, see Proceedings of American Association of Workers for the Blind, 1911, pp. 56, 89; *Outlook for the Blind*, ii., 1908, p. 103; Report of Illinois Board of Charities, 1908, p. 225; *World Today*, xvii., 1909, p. 943.

[4] In these estimates no account is taken of the amount invested in the property of the establishments, nor of free rent or other free accessories.

sand dollars annually. To it must be added the three hundred thousand dollars which we have found to be rendered from outside funds, either as public grants or as private contributions. The total yearly expense of the shops is thus eleven hundred thousand dollars. As the sales do not meet the full expense, the true "cost" of the establishments is the sum received from outside sources, namely, three hundred thousand dollars.[1]

If we compare the wages of the blind with the cost of the shops, we find that for every 85 cents earned by the blind the state or private benevolence has to pay $1; or, stated differently, that it costs $1 to pay them a wage of 85 cents. If, further, we divide the total expenses of the establishments by the number of persons provided for in them, we have $786 as the amount expended for each. As, however, approximately 73 per cent of this is defrayed from the sale of products, the real *per capita* cost proves to be $212.[2]

[1] This is sometimes known as "working loss." It may be added in this connection that if all the ten thousand blind persons in the United States whom we have found possibly capable of industrial employment were so provided for on the same terms as those now engaged, the total "cost" would be more than two million dollars.

[2] For table as to individual shops, see Appendix D.

CHAPTER XXXV

POSSIBLE EMPLOYMENT FOR THE BLIND IN GENERAL OCCUPATIONS

Industrial Provision for the Blind outside of Special Establishments

We are now to consider the question of the employment of the blind in more general occupations, or outside of special establishments, in the present chapter considering it in its theoretical aspects, and in the next the practical results of movements in this direction. Of the matter account of varying moment has been taken from time to time in the past, though it is probable that today more attention is being given to it than ever before—the interest aroused over provision for persons blinded in military service perhaps not being without a stimulating influence. Indeed, with the possible effecting at the present of greater or less social and economic readjustments, perhaps to result in the better distribution and fuller utilization of all the available labor supply of the country, it may come about that there will be a use for the labor of the blind, or a need for their services, to an extent not before known.

Work by the blind in the regular occupations of those who see, without the calling into requisition of special industrial establishments, is of course the one desirable and the ideal solution of their economic problems. So far as the arrangement may be found practicable, so far will there be obviated the need of such special institutions. The blind enter into the general industrial ranks of the community, with relatively little to set them off as a special class therein; and their lives are made to approach as nearly as possible the normal.

Industrial provision for the blind apart from special

shops may be developed along three lines.[1] First, they may be put into general shops or factories alongside sighted operatives, perhaps with certain supervision. Second, they may be set up, perhaps with guidance and assistance, in a business or trade, or in a commercial undertaking. Third, they may be furnished with material in their homes, which may be made into articles and the finished product marketed, all under proper direction. Each of these three forms of employment will demand separate treatment.

Work for the Blind in Regular Factories or Shops

Employment of the blind in regular factories or shops, when examined in its practical bearings, does not appear to have for the general mass of them an encouraging outlook. Even with particular oversight, the number that may be thus engaged is likely to be very restricted. At the best only the very quick to think and to act, and in the vigor of life, could expect to have a chance, and these, as we have had more than one occasion to note, do not constitute a large part of the blind. For the great number the difficulties seem to be well-nigh insuperable. In most manual operations, as we have already commented, sight is such an essential factor as to make the worker without it in many processes all but powerless; while in an establishment with machinery and perhaps in conjunction with many sighted persons, all moving under a brisk and ordered system, his straits become extreme.[2] One aspect of the situation has thus been stated:

> No matter what his mental equipment or skill of hand, the blind man cannot fill a position which demands watchfulness, discrimination, observation, or any other qualification dependent upon vision with its sense of form and color.[3]

[1] On different classes of the blind from an industrial standpoint, see Report of Massachusetts Commission for the Blind, 1915, p. 15.

[2] It has been sometimes thought that with the installation of special devices for the blind, their difficulties might be made less.

[3] Bulletin of Massachusetts Commission, 1909, p. 16.

Added trouble is met when it comes to the inspection of the work performed, with the discovery of possible flaws.

The blind man is at a disadvantage working alone. Measuring and other processes which a man who can see does not need will take him a good deal of time, and still very often his work is not quite what is expected.[1]

Employers are usually found very skeptical with regard to the capabilities of the blind, and show much reluctance even in giving them a trial.[2] There is fear that the work attempted by blind men will be a blunder, no matter how earnestly and carefully they try to do it.[3] There is also apprehension lest injury may result to them in their tasks, for which responsibility will rest upon the employer. This is especially true of recent years with the development of workingmen's compensation laws and of similar measures.[4]

The general situation may be summed up in the following words:

Experience has proved . . . that several things seriously militate against a wide extension of this form of employment. In the first place, opportunities are comparatively few, and some of them have already been secured by competent blind persons through their own efforts. In the second place, while there are many well-disposed manufacturers, who would be perfectly willing to provide such opportunities for a few persons without sight, their very good will makes them shrink from assuming what seems to them a large risk of injury to blind individuals who might enter their establishments.[5]

[1] *American Journal of Sociology*, viii., 1903, p. 690.

[2] "Factories, almost without exception, are closed to blind or defective-sighted men and women." Report of Massachusetts Commission, 1915, p. 17.

[3] There is sometimes even apprehension with respect to the employment of men with but one eye, this being largely due to a belief that one's fitness is thus impaired, and in small part to the fear that the remaining eye may be lost. On this matter, see Chapter XLII.

[4] Of 49,417 openings offered by employers in Pennsylvania for disabled men, as found in 1918 by the State Department of Labor and Industry, there were only 2 for men deprived of sight in both eyes. There were 5,618, or 11.4 per cent, for men with one eye. Bulletin no. 2, 1918, p. 45; *Annals of American Academy of Political and Social Science*, lxxx., 1918, p. 74. See also *Monthly Labor Bulletin*, vii., 1918, 3, Sept., p. 83; viii., 1919, 1, Jan., 1919.

[5] Report of Massachusetts Commission, 1910, p. 21. See also *ibid.*, 1914, p. 15.

It is not to be set down, however, that the field is entirely closed—so far as concerns those of the blind who are otherwise fitted, mentally and physically, and especially those who happen to have a remnant of vision—and so far as concerns those who live in localities where work is carried on of the character under consideration. In certain industries, though of limited range, there may be operations capable of being done by the blind. The occupations that have been proposed as suitable have been of a rather considerable variety—though the greater number are not found able to stand the test of practical experiment. Those which seem to offer the most promise are certain operations calling for unskilled labor, and ones in general simple or capable of being simplified—and, furthermore, of such nature as not to demand eyesight for their successful performance. Some of the most important brought forward are the assembling of articles, the packing of boxes, the wrapping, sealing, or labelling of boxes, bottles, or packages, the attending of automatic weighing or filling machines, the folding or cutting of paper, pasteboard, or other material in certain processes, the running of strings in certain processes, the bending of pins or wires in certain processes, the sticking of pins or pegs in certain processes, the smoothing or rough polishing or varnishing of certain surfaces, the stripping of tobacco, and similar operations.[1]

Of recent years there has appeared a form of work for the blind that is deserving of special mention. This is in connection with the manufacture of certain parts of electrical appliances, in which sight may not be altogether necessary. Such work consists mainly in the insulation, or the wrapping with tape, of coils for armatures, to be used in motors and dynamos. Other possible operations include

[1] To make a complete enumeration of the occupations suggested for the blind would be a difficult matter. Notable investigations of possible work for them have been made in connection with provision by the National Government for persons blinded in military service, and by certain commissions, associations, or other organizations for the blind. See Report of Tennessee Commission for the Blind, 1918, p. 13; *Survey*, xli., 1918, p. 397. On work by the blind in tying knots in and splicing ropes for tents, see Report of San Francisco Association for the Blind, 1918, p. 20.

the assembling or adjusting of certain parts, and like tasks.[1] The feature of greatest encouragement here is that with the general growth and development of electrical industries, there may be an increasing place for the blind, perhaps eventually to be extended to other industries.[2]

On the whole it may be regarded as an unfortunate condition that there has been so little of actual experience in respect to the employment of the blind in company with the seeing. With a larger and more general testing of their competence, there might be a material expansion of the openings available for them. There is small doubt that there is considerably more work capable of being done by them than is now believed. Not only is this the case, but it is probable that there are certain processes which, because of the deftness and sensitiveness of their fingers, are peculiarly fitted for them.

In work by the blind in general industrial establishments there may be said to be two factors that will greatly contribute to their success. One is a sympathetic employer, who, while avoiding any manifestations of charity, is yet willing to give the extra attention, or to afford the helping hand, which they at times need. The other is, in the case of large establishments, and where practicable, the creation of a special department, with special quarters, for the blind, where there is less danger of their contact with machinery, where proper facilities may be provided for them, and where they may have needed supervision, including due inspection of their work. In this there appears to be an approach to the special shop for the blind: the essential difference is that with the general establishment the blind play an in-

[1] In respect to such work it is said that its quality "is pronounced by official inspectors absolutely as good as that of sighted labor." Crocker-Wheeler Co., "Double Duty Finger Guild," 1918.

[2] See *Popular Mechanics*, xxvi., 1916, p. 426; *Outlook for the Blind*, xi., 1917, p. 66; xii., 1918, pp. 29, 89; *Electrical Review*, xxiii., 1918, p. 23; *Literary Digest*, lv., 1917, p. 27; *New York Sun*, Dec. 2, 1917; *New York Evening Post*, Sept. 22, 1917; *Electrical World*, lxxi., 1918, p. 114; *Modern Hospital*, x., 1918, p. 63; *Sea Power*, vi., 1919, p. 44. See also publications of "Double Duty Finger Guild," of Crocker-Wheeler Co.

tegral and necessary part in the entire producing force in an undertaking conducted on purely commercial lines.

In work of the blind in regular shops or factories their wages as a rule are not to be expected to equal those of the seeing. The labor of the former is, as we have seen, mostly of an unskilled kind, and with some only limited speed is possible. Often there will be, as in the special shops, earnings to be regarded as insufficient for entire self-support, but only as contributing in that direction.

In respect to all work of this character there are full opportunities for service on the part of commissions, associations, shops, or other agencies for the blind. They may not only be concerned in finding employment, but also in extending a general supervision, with the giving of appropriate aid and advice.[1]

Work for the Blind in Business Undertakings

In the carrying on of a small business or trade, or in employment in a subordinate position in a commercial or mercantile establishment, or in a professional calling, there may also be possibilities for a certain qualified portion of the blind—perhaps, because of the fewer difficulties to be contended against, a larger portion than in the preceding case. The most favorable prospects are for those who have lost their sight while engaged in an executive position in a business or in a profession, and who, because of their general equipment and ability in other respects, are able to continue thereat. Perhaps not a great number of the blind on the whole can be provided for industrially in this manner, but it seems distinctly possible for a not inconsiderable proportion to be.

In some cases it may be feasible to continue blind per-

[1] On the possibilities of the employment of the blind in regular shops and factories, see Proceedings of American Association of Workers for the Blind, 1905, p. 32; 1907, p. 101; 1911, pp. 18, 21; *Outlook for the Blind*, ii., 1908, p. 23; xi., 1917, p. 52; *Charities and the Commons*, xv., 1906, p. 634; Report of Pennsylvania Board of Charities, 1911, p. 124; Report of Ohio Commission for the Blind, 1910, p. 4; Report of Pennsylvania Institution, 1916, p. 35.

sons in the same occupations in which they were at the time of their loss of sight, perhaps with a certain amount of aid and supervision. In other cases it may appear advisable to set them up in a trade in their own communities to meet a particular need, with the supplying of necessary tools or stock, the trade to be chosen for the purpose perhaps being one acquired at a school or workshop, or elsewhere.[1] For a portion a modest business affair, such as a store or news-stand, or perhaps some other industry, may be deemed to be practicable. For another portion of them market gardening, small farming, or poultry raising may be adopted.[2] In addition, there are several lines which may be said to be already established ones for the blind, and which may be extended on an even larger scale. These are mainly in the sphere of music, including the tuning of pianos or other musical instruments and the teaching or playing of music. In all such endeavors full account must be taken of the matter of local competition, of marketing facilities, and of like factors. In trade or in industrial occupations perhaps the most important consideration of all in the majority of cases is that there be at hand a sighted member of one's family, in particular a wife, to be of general assistance, and who can supply the eyes which at times are not easily to be dispensed with.

In positions in general undertakings there may perhaps also be afforded employment. In salesmanship there may be possibilities now only partly realized.[3] Such may also be true of general office work, including office management, accounting, and book-keeping. In stenography there may be considered to be a rather special field for the blind, which may perhaps be enlarged, particularly as there is now special apparatus for their use here.[4] In telephone operating

[1] See Report of Indiana School, 1858, p. 20;. 1860, p. 13; 1862 p. 41.

[2] On poultry raising for the blind, see *Colorado Index* (Colorado School), Dec., 1914; Jan., 1915; *Utah Eagle* (Utah School), May, 1914; *Outlook for the Blind*, viii., 1915, p. 175; ix , 1915, p. 95; Proceedings of American Association of Instructors of the Blind, 1915, p. 32; 1916, p. 103.

[3] See *Outlook for the Blind*, xii., 1918, p. 90.

[4] See *Survey*, xli., 1918, p. 507.

there are similar opportunities.[1] In time still other occupations may be found available.[2]

Success in enterprises of a business nature will depend in the largest measure upon the individual ability, business capacity, initiative, and protracted energy of the blind themselves.[3] Yet general oversight and aid of one kind or another may well be extended to them, which may very appropriately be the function of a public commission or private association, or even of an industrial institution. As a form of the assistance which may be rendered, the following has been suggested by the Massachusetts Commission:

> The Commission is strongly of the opinion, after its nine years of experience, that there is a considerable body of blind men and women who can successfully compete in an industrial world arranged for those with sight, if they are given what might well be called a subsidy to help equalize their chances in competition. As has been proved by experience, such men and women have the qualifications to enable them to carry on selling in one form or another, provided they are helped with a guide or sighted person to assist in the book-keeping, or by other aids without which the blind person is so largely helpless.[4]

With respect to such undertakings as the keeping of newsstands, so well suited to the blind, it may even be hoped that licenses therefor may be restricted to the blind and to other handicapped classes, especially at times of a general shortage of labor.

[1] See *New York World*, Jan. 2, 1907; Report of Ohio Commission for the Blind, 1912, p. 18; *Outlook for the Blind*, x., 1916, p. 92.

[2] Massage is an occupation which, because of their sensitive touch, has sometimes been recommended for the blind. See *Philadelphia Medical Journal*, i., 1898, p. 426; *American Medicine*, viii., 1904, p. 232; *Boston Medical and Surgical Journal*, clii., 1905, p. 485; *Ophthalmology*, iii., 1906, p. 23; vi., 1910, p. 191; *Talks, Tales, and Public Opinion*, Nov., 1906; *Technical World Magazine*, xix., 1913, p. 905; *Annals of American Academy of Political and Social Science*, lxxx., 1918, p. 111; *Medical Record*, xciv., 1918, p. 709; Proceedings of American Association of Instructors of the Blind, 1898, p. 19. On art weaving for the blind, see Report of Ohio School, 1895, p. 65 (7th reunion of former pupils); *Art and Progress*, iii., 1911, p. 418.

[3] The entry of the blind into the professions will depend upon the talents, resources, training, and general circumstances of individual persons. See *North American Review*, xxxvii., 1833, p. 47.

[4] Report, 1915, p. 18.

A large opportunity is presented in the entire matter for the special business training of the blind, both to enable them to overcome the difficulties due to their condition, and to promote their general efficiency—a subject to which schools and other organizations for the blind are giving increased attention.[1] Above all, it is necessary that there be a constant lookout for openings, and also that the public in general be acquainted with the capabilities of the blind.

Home Work for the Blind

The last phase of industrial provision for the blind outside of special establishments is work to be done by them in their own homes. This is the simplest form, meaning as it does, not the bringing of the blind to their places of work, but the taking of the work directly to them.[2] With the material and the necessary instruments carried into their habitations, with competent instruction afforded in the fabrication of marketable goods, and with adequate facilities for the disposal of the completed articles, there is no small field open to the blind. It is one the entire range of which cannot be fully known till after trial, and one which is capable of very considerable expansion. The work lends itself peculiarly to women, especially in the making of certain fancy articles of sewing, and also of certain plain articles. For some men as well the manufacture of wares to a limited extent may be found possible. In few cases are the financial returns from such efforts likely to prove large, but in a number they may be quite measurable.

In the execution of home work success will in large degree be proportioned to the individual capacity and energy

[1] On a course in business training in connection with the work of the schools, see Proceedings of American Association of Workers for the Blind, 1907, p. 11. See also Report of Indiana School, 1850, pp. 30, 34.

[2] The main industrial question with the blind is said to be that of home work. Report of Ohio Commission for the Blind, 1912, p. 20. See also *ibid.*, p. 12; Ohio Bulletin of Charities and Correction, xvii., 1911, 4, Dec., p. 35; Report of Pennsylvania Institution, 1913, p. 22; *Outlook for the Blind*, xi., 1917, p. 50; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 58.

of the blind. A special directing hand is at the same time required; and the task may well be included in the sphere of home teaching, or among the duties of a commission, association, or other agency, such undertaking to furnish the proper equipment, to provide instruction, and to attend to the marketing of the finished products. A great deal will also depend upon the education of the public in the matter.

Possible Special Provision for Industrial Training and Reëmployment of Persons Blinded in Industry or Elsewhere

Consideration of industrial provision for the blind is not ended with the examination of measures designed for persons already in a state of blindness. In a really comprehensive program, provision is to be made for the training and reëmployment of persons who are blinded in industrial processes, and perhaps also for persons of like age and industrial capacity whose blindness is occasioned otherwise. Such persons, being in the vigor of life and at the period of their greatest industrial efficiency, present the choicest group among the sightless—though even with them the limitations imposed in any circumstances by the want of sight must be early and fully recognized. The action of the Federal Government with respect to persons blinded in military service may perhaps be regarded both as an incentive to and as the forerunner of action in respect to persons blinded in civilian callings, especially on the part of the several States. The matter is one as yet but dimly understood in the United States, and its general introduction belongs mainly in the future; but with our present enlarging conceptions as to such questions, it may be hoped that before very many years general attention will be given to it. An opening place for it will most appropriately be found in connection with the workingmen's compensation laws now being so widely adopted, where not only will indemnity be

assured for the loss of vision occurring in the course of employment, but all possible measures will be called into requisition both to train industrially in a suitable manner those so injured, and to place them in the occupations for which they may be prepared. In the process all existing means for the industrial employment of the blind may be availed of –special shops, work in regular factories or in business, work in independent undertakings, and home work.

CHAPTER XXXVI

PRESENT EXTENT OF EMPLOYMENT OF THE BLIND IN GENERAL OCCUPATIONS

The Blind in General Industrial Establishments

After consideration of the theoretical aspects of work for the blind in the general occupations of the seeing, we are to ascertain in what measure this has had practical realization. Perhaps the fullest answer to our inquiry in the matter is to be found in an earlier chapter on the general economic condition of the blind, where there have been shown the forms of occupation engaged in by them and the financial status of those so engaged.[1] With respect to their employment in regular shops or factories, it appears that here and there, in one place and another, it has proved feasible for certain blind persons to take up industrial work with the sighted, though the extent of this has been most limited, and has affected but a very small number.[2] Of the operations that have been proposed as suitable for the blind, only a slight proportion have received practical application to any appreciable degree. In work in establishments manufacturing electrical appliances, to which attention has been called, a beginning has been made, which may lead to further developments.[3]

Where employment of the blind has been secured in general industrial establishments, it has sometimes been through their own efforts and sometimes through the efforts

[1] See Chapter III.

[2] Certain blind persons have been accepted for a longer or shorter period in establishments engaged in the making of tags, cash registers, sewing machines, etc.

[3] This form of work was commenced at Ampere, New Jersey, in 1917, a special department for them having been created. Two or three score blind persons are now given employment here, a considerable part of whom receive over $1 a day, there being also a minimum wage fixed. Similar work has been undertaken in several other places.

of others. Nearly all the organizations interested in the blind, whether to be regarded as formal employment agencies or not, including commissions, associations, shops, or schools,[1] are constantly on the lookout for openings, and are often assiduous in their endeavors to place whatever ones they can.[2]

The Blind in Business Undertakings

The establishment of the blind in some small business or trade, or in a position of a commercial nature, or in a profession, so far as it has been accomplished, is most often the result of their own initiative and exertions, with certain assistance as a general thing from their families or friends. In some instances they are thus provided for under the direction of some special agency for the blind, with perhaps the furnishing of tools or the extension of other aid.[3]

In our previous examination of the economic condition of the blind, we have seen that though they are found in a variety of callings of this character, they are for the most part but thinly distributed among them; and we have assumed that in many cases these callings were the ones followed at the time of the oncoming of blindness. In those lines which have been regarded as particularly suited

[1] The efforts of schools in this direction, or in the general placing of blind persons in positions with the seeing, are worthy of special mention. Some schools make particular exertions to find employment for former pupils, as well as for other blind persons. In this way they manifest anew their concern in the industrial well-being of the blind.

[2] In a few cases blind persons in general establishments are paid by some agency the difference between what is actually earned and what is regarded as a minimum wage.

[3] In several States these may be lent by the commissions for the blind. In Wisconsin this may be done by the State board of control. In Connecticut on the departure of blind persons from the industrial school, they may be allowed each the sum of $200 for the purpose of providing themselves with tools. Laws, 1903, ch. 62. In Mississippi tools may be furnished by the State school to its graduates to the value of $100. Laws, 1910, ch. 131. By the New York State School tools may be furnished to the value of $75. Laws, 1867, ch. 744; 1873, ch. 463; Cons. Laws, Ann. Supp., 1913, p. 733. The counties may be required to reimburse the school for the amount. The Pennsylvania Institution once allowed to its graduates $80, then $40, then $20, and finally nothing.

for the blind, they are, except in respect to music and a few other vocations, scarcely more extensively represented.[1] It is to be added, however, that into certain occupations, such as telephone operating and stenography, they are having rather an increasing introduction.

The Blind Engaged in Home Work

The possibilities of work by the blind in their immediate homes have assumed within late years a very considerable importance, which may in large part be ascribed to the development of home teaching. It is being increasingly felt that there is perhaps a really wide field here, and one which is especially adapted for blind women. The agencies now taking up the work embrace to a greater or less extent nearly all of those laboring in behalf of the blind. As one of the tasks of home teaching it is considered to be peculiarly appropriate. From not a few associations for the blind it is receiving particular attention. Among the duties of commissions it is being given a prominent and definite place. In it a few schools and shops are also enlisted.[2] The undertaking has in fact assumed such a character that efforts are at present being made to organize it along systematic lines, and, as far as possible, to put it on an actual business basis.[3]

The work as now constituted includes the distribution of material, the providing of instruction in its preparation, and the collecting and marketing of the finished products. In the case of several of the associations for the blind, class instruction is afforded. To dispose of the goods, early procedure has often been the offering of them for sale at places generally frequented by the public, especially at hotels

[1] In large cities where there are schools for the blind, especially Boston, New York, Philadelphia, and Pittsburgh, the pianos in a number of the public schools have been tuned by their pupils or graduates. In certain instances encouragement is lent to pupils to earn money in vacations.

[2] Special salesrooms are conducted by the Pennsylvania Institution, the Perkins Institution, and the Maryland School.

[3] Often agencies handle goods produced in other States.

and summer resorts. In time displays have been held elsewhere also. Today in certain centers of population there are maintained permanent salesrooms; while in various smaller localities there are conducted what may be called moving exhibits or exchanges, with a longer or shorter stay at each place. The latest development is the creation of a system of special agents to take orders for goods. Of particular benefit at all stages has been the coöperation of certain department stores in large cities and of other stores in smaller places, which, without charge, furnish space for the wares of the blind and make collections for them. Favors of other kinds are also frequently extended, not the least of which has been the aid rendered by women's clubs.

According to the usual plan, the workers are paid the difference between the cost of material and the selling price of the completed article, all costs for instruction, shipment, etc., being provided. The net compensation received by individual blind persons rarely amounts to as much as two dollars a week, often being much less. The articles made are of various kinds, though mainly some form of needle work, usually including both plain and fancy work.[1] While women constitute much the larger number of those benefited, the undertaking has in many cases been expanded to include men, their labor being principally the making of brooms, rugs, baskets, and other articles. The proportion of adult blind persons at present affected by home work in particular States ranges from two or three per cent to seven or eight per cent, though if women only are considered, the proportion is nearly doubled.

Special Industrial Provision for Persons Blinded in Industry or Elsewhere

Special provision for the training and reëmployment of persons in consequence of their having become blind while engaged in industrial operations or in other circumstances

[1] In Ohio there has been formed what is known as the "home workers' guild."

is, as we have observed, but little known in the United States. In only two States has attention so far been given to the matter, which, however, we may trust is but the beginning of a general movement in this direction. One State is Massachusetts, which in 1918 created under its Industrial Commission, and with the coöperation of the State board of education, a division for the training of, and the extension of aid in securing employment to, persons who are disabled in the course of their work—disability through loss of sight being included by implication. The other is Wisconsin, the Industrial Commission of which has adopted similar provisions as a part of its general program.[1] In the measures adopted by the Federal Government for the training and reëmployment of persons blinded in military service, we have at once an example and a standard.[2]

[1] See Chapter XLII.
[2] See Chapter XLV.

CHAPTER XXXVII

PENSIONS FOR THE BLIND: THEORETICAL CONSIDERATIONS

Theoretical Aspects of Pensions for the Blind

With the economic condition of the blind as it is, and with the means so far offered to it likely to affect only a part of them, we are now obliged to inquire whether some other recourse may not be availed of to meet the needs of the considerable number still requiring aid. A single resort seems now to lie before us. Is it not possible that some arrangement may be effected whereby a certain public allowance may be made to the blind to relieve their material wants, which will not interfere with their home connections or with their regular order of living? In other words, is it not possible for some sort of pension system to be devised, which can in some measure answer to their needs?

This is the issue with which we are now brought face to face. The matter, however, is of far larger significance than would be indicated by the lines of approach which we have made to it. It is, in reality, the one great, overshadowing theme in all work for the blind that has to do with their economic condition. Through all discussion of this condition the pension plan looms up as the ultimate question. To whatever extent contribution may by other measures be made to the general solution of the problem, in respect to a certain number the question of pensions is sooner or later to be found waiting.

In subsequent chapters we are to consider the offer of indemnities in different forms for the loss of sight, which may be regarded as affording the really desirable solution of the problem. Yet such, to whatever extent to be ac-

cepted, belong mainly to the future. To the blind of the present they can have but little relation: for these a program more immediate in its bearings is demanded.

For the most part hitherto in the United States any form of pensions other than those to war veterans has been looked upon askance. It is only within comparatively recent years that serious attention has been given to the extension of the principle of public pensions, or grants, as they may equally well, if not better, be called,[1] to other classes of the population, as to industrial workers who have become incapacitated for labor, or to widowed mothers with young children. In these cases, as with pensions to war veterans, the award is based upon services, past or present, for the performance of which the state can feel that it owes a real and distinct debt. Upon a different basis from these will have to rest pensions for the blind. Here the question of reward for past service or recompense for present service scarcely enters into the situation. The aid is extended simply as a means of relief, considered to be best adapted to meet the needs of an incapacitated portion of the population. But though such pensions, so far as their grounds for being are concerned, are independent of other schemes of public grants, they may not be very different in their practical operations. In their working out both may gain much by mutual study and comparison.

Before proceeding further, however, in the consideration of a pension system for the blind, it is necessary that examination be made of the arguments against it. These arguments are several, all of a very serious nature. In the first place, any comprehensive scheme of pensions for the blind will require a very considerable outlay of money from the public treasury, that is, from the tax-paying community.

[1] Objection is sometimes made to the use of the term "pension" in this connection; and it is admitted that "grant" is, logically speaking, the better and more accurate expression. The former word, however, has such a wide acceptance in popular usage that probably we should lose rather than gain in trying to substitute something else for it.

If one-half of the blind persons of the country over twenty years of age should be given pensions at the rate of $150 a year—this being the maximum sum allowed in the majority of States with pension systems—there would be expended annually for pensions for the blind in the United States a sum not less than four and one-half million dollars.[1]

Against the pension plan arguments are also advanced which affect more closely the position of the recipient. It is felt in many quarters that in this way the economic sore spots of society are not really reached, and that into the best devised arrangements abuses and trickery are likely to creep. It is extremely difficult, moreover, to determine just what is "adequate" relief. In most of the States now having pension laws the maximum amount allowed is $150, in many cases altogether insufficient. Again, it is quite possible that the general tendency of the practice will all too frequently be other than desirable, with the effect on the character of the recipient far from wholesome. The incentive to rely on one's self and to make determined and continued efforts to find employment is largely removed; and there may result inertness and indolence, coupled with a complacent sense of security in being provided for at all events.[2] One of the conclusions of the Commission for the Blind of the State of New York, which seems to sum up many of the objections to the scheme, is that it is "in a large number of instances not only an unwise method, but is demoralizing in its effects upon the recipient." [3]

Nor are the results of the plan confined or of concern to

[1] The proportion of the blind over twenty years of age now receiving pensions in New Hampshire is about one-fifth; in Illinois, about three-fifths; in Wisconsin, a little over one-fifth; and in Ohio, apparently not less than four-fifths.

[2] Objections to the pension plan, as based upon concrete experience in the city of New York, have been stated as follows: (1) The system is not in accord with modern principles; (2) it offers a premium on residence in the city; (3) the relief given is not adequate, and begging is still resorted to; (4) at the time of the disbursement of the money the recipients are exposed to unfavorable weather conditions; (5) squalor and other untoward conditions are not eliminated by the practice; (6) money received in a lump sum is not always wisely expended. An additional objection is that opportunity is afforded for shrewd men to get possession of the money. *Charities and the Commons*, vi., 1901, p. 249. See also *ibid.*, xv., 1906, p. 616.

[3] Report, 1904, p. 48.

the immediate beneficiary alone. In not a few cases the family may consider itself relieved of its duty, and may not make the effort to assist as it otherwise might. In other instances the situation may be of general family want, which requires consideration as a whole. Furthermore, it may be remarked that some of the blind would not be in need of pensions if proper attention and provision had been accorded them at an earlier period. It is likewise to be remembered that if there were offered a general old age pension system, many of the blind would be included in it, and therefore would not demand a special one for themselves, blindness being, as we have had occasion often to point out, in great measure an affection of old age. Blind persons with other ailments or infirmities than blindness might also to some extent at least receive treatment based on such condition.

Perhaps, however, the strongest argument against the giving of pensions to the blind remains to be presented. This involves both the justice and the practicability of extending relief of this nature to one handicapped class and not to others. If pensions are to be afforded to the blind, why should they not be to other incapacitated persons? And if to such, why not to the infirm of society generally? Where shall the line be drawn, or where shall we stop once we have started? Some large questions are found to be opened up, the logic of which cannot be denied. They will have to be frankly faced; and it would be difficult, even if it were wise, to escape from the full implications of the situation.[1]

The arguments for the pension, on the other hand, are not without very great weight, possessing in fact peculiar

[1] On objections to pensions for the blind, see Report of Royal Commission on the Blind, Deaf and Dumb, etc. (England), ii., 1889, p. 431; Proceedings of American Association of Workers for the Blind, 1905, p. 27; Ohio Bulletin of Charities and Correction, xiv., 1908, 2, March, p. 87; Illinois Institution Quarterly, vii., 1916, 3, Sept., p. 22; Proceedings of National Conference of Charities and Correction, 1916, p. 346; Report of Massachusetts Commission for the Blind, 1915, p. 72; *Outlook for the Blind*, ix., 1915, p. 72; *New York Evening Post*, Feb. 8, 1906; *Providence Journal*, March 17, 1915; *St. Louis Republic*, March 1, 1917.

force. The most powerful ones center about the circumstance that for some of the blind there appears little else to be done. The larger number of the blind have been found unable to earn a living for themselves, and must be provided for in some way. The different remedies offered to relieve the situation, whether special homes or industrial establishments, constituting in themselves no inconsiderable financial drain, can affect but a limited portion. Thus the case for the pension plan, negative though it be, and despite all the arguments to be advanced against it, lies ultimately in the fact that for a certain part of the blind it remains the one recourse.

Yet to some of the objections brought forward a word may be said in answer. Under a carefully devised and executed system, many of the abuses, including perhaps the possibly deleterious effect on the recipient, may be minimized if not eliminated. As to the difficulties that are likely to be met with in singling out one handicapped class for favor, it may suffice to say that, while the seriousness of the problem is to be recognized, it should not be allowed to confuse the situation as to the blind or to militate against their evident needs. If it is found that others are entitled to similar relief, and that a pension system on a larger scale is the logical result, the matter should be decided on its merits, without prejudice to the wants of the blind.

Nor are the arguments for the pension system altogether of a refutatory character. The proposal has also certain positive advantages. It is the simplest, the most direct, and probably the most economical of all the measures available for giving necessary assistance to the blind. The principle of elasticity may be introduced, allowing greater amounts of money for more needy cases, and smaller amounts for less needy. The beneficiaries are afforded a certain hope, and an assurance of care and protection, adding much to their comfort and joy in life.[1]

[1] It is sometimes claimed also that the receipt of a pension makes a blind member

Even though the financial outlay may appear to be large, under a careful system the pension is only to be extended in place of all other relief, including the profits of mendicancy, which lightens measurably the burden upon other sources.[1]

When the question of pensions is shifted from theoretical considerations to the ground of experimental knowledge, the argument for them appears on the whole to acquire new strength. Despite the fact that there are not a few workers for the blind who oppose the granting of pensions to them, it seems to be that by the greater number of those who have been concerned with them in various relations, and who have sought in all other possible ways to solve their economic problems, some form of relief, whether called pension or not, is being viewed with more and more favor, or is being accepted as the last resort. While, because of the difficulties in the way, there is hesitation in advancing definite programs, the conviction appears to be steadily gaining that eventually some kind of pension system will have to be adopted.

As an instance of what may be styled this changing attitude, we may call attention to the experience of the Massachusetts Commission for the Blind. Upon its creation in 1904 and after its first investigation, we find it taking a stand in opposition to the plan.

> From such evidence as we have been able to gather concerning the pension schemes, we are led to believe that they represent a mistaken and undesirable policy.[2]

more welcome in his family. An argument occasionally advanced by the blind themselves is that inasmuch as the state furnishes free parks, museums, etc., to the general public, which they are unable to enjoy, they are entitled to some compensatory benefit.

[1] For arguments for the pension system, see Proceedings of Minnesota Conference of Charities and Correction, 1899, p. 58; Report of Ohio School, 1905, pp. 89, 125 (8th reunion of former pupils); *Charities and the Commons*, xix., 1907, p. 1105; Proceedings of American Association of Workers for the Blind, 1911, p. 90; Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 70; *World of the Blind*, March, 1916; *Cincinnati Globe*, Oct. 26, 1917.

[2] Report, 1904, p. 8.

After five years of direct dealing with the problems of the blind, and after consideration of all the possibilities of the situation, a more favorable view is taken of the project, so far as it may apply to such of the blind as are "incapacitated," though without the endorsing of it as a whole.

> Whether this type of need should be met by more highly organized private philanthropy, by homes partly or wholly supported by the state, or by a carefully guarded pension system, this Commission is not prepared to determine.[1]

A year later we note a further advance, in that for certain of the blind the pension scheme is held out as the only remedy.

> We come more and more clearly to the conclusion that a pension system, carefully safeguarded, and possible for use by a blind person at home, or in the form of an admission fee to enter a home for the blind or a home for the seeing, is probably the only adequate solution of the problems of the aged and infirm blind. Until some such measures are extended, little more than is already being done by charitable bodies or individuals can be accomplished for the aged and infirm deprived of sight.[2]

In the next few years, however, while the need of a pension for such persons is still pointed out, the appeal is to private philanthropy to provide it, and not the state.[3] The Commission, in 1915, deprecating action by the latter, asserts that the most perplexing cases—

> Do not present any such difficulties or any such cost as grow out of the administration of a general pension system. . . . The Commission is, and always has been, opposed to a general pension system for those deprived of sight.[4]

[1] Report, 1909, p. 17.
[2] *Ibid.*, 1910, p. 12.
[3] *Ibid.*, 1911, p. 16; 1912, p. 12; 1913, p. 71; 1914, p. 18.
[4] *Ibid.*, 1915, p. 15. It is also stated that the thing "most difficult of all" is "how to take care of those aged and wholly incapacitated blind, or those blind persons with other handicaps, such as that of feeble-mindedness, for whom there can be little but some form of straight relief." *Ibid.*, p. 14.

In 1917 it favored the enactment of a law providing "special outdoor aid to blind individuals or families in which there are one or more blind persons," through the administration of existing agencies.[1]

In the State of Ohio, with the largest actual experience in the pension plan, opinions vary as to the results achieved. On the one hand, there is emphatic commendation, it being declared that the pension "is of inestimable benefit to a large dependent class," [2] that it has "relieved the immediate and pressing needs of fully two-thirds of all the blind of the State of Ohio," [3] and that the law, "imperfect though it is," "is a real and appreciated benefit to many needy blind of the State." [4] On the other hand, complaint has been raised especially in regard to the more or less indiscriminate giving of the pension, it being stated that—

> It is a deplorable fact that at least 50 per cent of the recipients of the blind relief would never have thought of applying for public charity had it not been for the loosely drawn and more loosely administered blind relief law.[5]

In other States complaint is made as to certain undesirable effects of the pension.[6]

[1] Statement I, Pensions or Relief, 1917. This was to be largely for experimental purposes. The appropriation called for was of $50,000. It was believed that from 500 to 1,000 persons would be affected.

[2] *Ohio State Medical Journal*, v., 1909, p. 472; Ohio Bulletin of Charities and Correction, xv., 1909, 1, Feb., p. 36.

[3] Proceedings of American Association of Workers for the Blind, 1911, p. 91. As to the apprehension that "the giving of relief would decrease the ambition of the blind to be independent," the Ohio Commission for the Blind "cannot express too strongly from actual observation its conviction that this is not universally or even generally the case." Report, 1912, p. 28. See also Louis Stricker, "Blindness in Hamilton County," 1918.

[4] Cleveland Society for the Blind, "The Blind in Cleveland," 1918, p. 72.

[5] Report of Supervisor of Administration Relative to the Advisability of Providing Pensions for the Needy Blind, Massachusetts, 1917, Senate no. 326 (statement from Ohio).

[6] "The pension law now in operation is not an entire success. The difficulty lies in the fact that the administration is left with local county officers, and it is used somewhat for political purposes, that is, the county officer is very apt not to turn down applicants for fear of the political effect. As a consequence, there are quite a number getting pensions who do not deserve them, and who have no right to have them." *Ibid.* (statement from Wisconsin). With respect to Kansas, the writer is advised that "some of the blind are afraid to engage in industrial pursuits for fear that the pension will be withdrawn."

The feeling of many of the workers for the blind may perhaps be summed up in the following testimony, given also in Ohio:

> But that some state relief which will enable them to stay among their own people, and not be forced into institutions except when their other infirmities would make it seem best, is desirable and necessary, all who have known the poor blind must agree.[1]

It may possibly even be said that with a number of those concerned with the interests of the blind the real question is now, not whether pensions are desirable or not, but, because of their being the eventual recourse, the formulation of a policy that will be at once helpful and effective.[2]

The practical considerations involved in the giving of pensions are not to be neglected or minimized. Pension schemes of any kind in America have been but little worked out. Where they have been instituted for the blind, they are found to have presented difficulties of no small consequence, and to have been managed with not a few missteps, all furnishing object lessons to be utilized to the utmost.

Laws authorizing pensions should be so drawn and so administered as to work benefit and not injury to the blind. In this design there are several requisites. Relief should reach all, and only those, who are entitled to it. Unworthy persons should be strictly excluded, looseness of any kind not being tolerated. There should be investigation of all applicants, conducted on scientific principles, and the administration should be of a thoroughly disinterested character. Grants should be made according to individual needs, each case being decided for itself,

[1] *Outlook for the Blind*, ix., 1915, p. 82. See also *ibid.*, ii., 1908, p. 108; Reports of Ten-year Survey Committee of Massachusetts Commission for the Blind, 1916, pp. 4, 19, 31.

[2] In 1917 the American Association of Workers for the Blind created a special committee to draw plans for outdoor relief, and to draft a model bill. *Outlook for the Blind*, xi., 1917, p. 20.

with the avoidance of any flat-rate scheme.[1] Consideration is to be given to the family as a unit, with relief based upon its general condition, while at the same time the family is not allowed to escape its full responsibility in the matter. Care, furthermore, is to be exercised so as not to impair the morale of persons able to do work. In some instances the pension may be held out, not as complete relief, but as a nucleus to assist in the gaining of a livelihood.[2] The amount of the grants should, if possible, not be so large, on the one hand, as to constitute a serious financial drain to the state, nor, on the other hand, so small as not really to meet the necessities of the recipients. With all existing agencies for the blind, including commissions, workshops, and other organizations, there should be complete accord and coöperation; and it should be felt as far as possible that their work is being complemented. With philanthropic organizations of a private character there should also be concert. In the undertaking of the policy it may often be best to proceed slowly, and to attempt only minor operations at the start, the system being developed on a larger scale as is justified by experience. Upon what agency should devolve the administration of the pension, whether some already established or some specially devised body, whether one acting in a State or in a local capacity, whether one dealing with the blind alone or with other classes as well —these matters will have to be settled according to particular conditions.[3]

[1] "A flat-rate basis of aiding the blind is indefensible. The amounts given to certain individuals would be in excess of their needs; and to others so small in the face of their wants that to establish such a system, having knowledge of its limitations, would be folly. There is no reason why the family of the blind person should be eliminated as a unit, even in the consideration of relief." Report of Supervisor of Administration Relative to the Advisability of Providing Pensions for the Needy Blind, Massachusetts, 1917, Senate no. 326.

[2] It has been suggested that $15 a month be granted to those whose earnings do not amount to more than $200 a year, and $10 a month to those whose earnings are from $200 to $300; or that to persons earning less than $6 a week, an amount equal to one-half of the sum earned be added. *Outlook for the Blind*, xi., 1917, p. 33.

[3] On the making of an effective pension system, see Ohio Bulletin of Charities and Correction, xvi., 1910, 2, May, pp. 58, 93. See also American Encyclopedia of Ophthalmology, ix., 1916, p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916.

Constitutionality of the Pension System

A question which requires attention in the adoption of the pension system for the blind in the United States is whether the enactments providing for it will be constitutional. Objection might possibly be based on the claim that private property was being taken without due process of law, or that public funds were being appropriated for private purposes, or that class legislation was involved, provisions in respect to such matters being found in the Constitutions of practically all the American Commonwealths.

In the State of Ohio the matter has been pronounced upon judicially in several particulars. In 1906 in the case of *Auditor of Lucas County v. State* [1] the constitutionality of a statute on the subject first received attention. Two years previously the legislature had enacted a law creating a pension system; but the auditor of one of the counties of the State had refused to allow payment on the ground that the Act was unconstitutional, the matter reaching the Court through the issuance of a mandamus to compel payment. The Court decided that the statute was in contravention of the provision of the Constitution which forbade the taking of public funds for private purposes. After recounting the objects of the several State institutions for the infirm classes, it declared:

> But it does not follow that it would be either wise or constitutional to select out a class having some particular physical infirmity, and then confer a bounty upon the individuals of that class. If a bounty may be conferred upon individuals of one class, then it may be conferred upon individuals of another class, and if upon two, then upon all. And, if upon those who have physical infirmities, then why not upon other classes who for various reasons may be unable to support themselves? And,

[1] 75 Ohio, 114, 78 N. E., 955, 7 L. R. A. (n. s.), 1196. The matter came from a lower court, where the law was held to be constitutional, the aid being considered a legitimate one, and really like that of the poor law. *Davies v. State*, 27 Ohio C. C., 503, 6 Ohio C. C. (n. s.), 417 (1905). See also Report of Ohio Board of Charities, 1907, p. 83; *Outlook for the Blind*, i., 1907, p. 12.

if these things may be done, why may not all property be distributed by the state?

The Court then undertakes to state the powers of the State with respect to the levying of taxation upon its citizens, and the purposes for which such taxation may be made. The existence of provisions in the Constitution for the establishment and maintenance of "institutions" for certain of its classes is regarded as merely the recognition of the fact "that by enlightened people such classes are treated as wards of the state." The Court continues:

> No provision is made in the Act to insure the application of money to the support of the individual, or to prevent him from becoming a public charge, or in any manner to control its use by him. The Act does not direct that the payments shall continue during the life-time of the beneficiary; nor does it limit the time, nor provide that payments shall cease with the needs of the donee, or provide for any subsequent inquiry. It is an indeterminate, gratuitous annuity, a gift pure and simple; and being so, the legislature is without authority to make it from the public funds. . . .
>
> It may be said that funds used for the care of the poor are used for a public purpose, and that moneys used under the provisions of this Act will subserve a public purpose for the reason that they will enable many blind persons, aided by their own efforts or those of their friends, to support themselves, and thus escape becoming a public charge. The wisdom of the legislation is not questioned. The power of the legislature to so enact is the question presented here. . . .
>
> If the power of the legislature to confer an annuity upon any class of needy citizens is admitted upon the ground that its tendency will be to prevent them from becoming a public charge, then innumerable classes may clamor for similar bounties, and, if not upon equally meritorious grounds, still on a ground that is valid in the law, and it is doubted that any line could be drawn short of an equal distribution of property.

Judicial opinion is later expressed in Ohio regarding other aspects of pension laws. After the foregoing decision had been rendered, a new statute was enacted, declaring that the pensions were for the benefit of needy blind persons, and were allowed in lieu of all other aid, and care-

fully defining those who were to be so included. This law was not brought into question, and the blind drew their relief without hindrance. In 1913, however, it was believed that an Act could be so framed that it would be beyond attack on constitutional grounds. This was to be accomplished by invoking the assistance of the provision of the Constitution itself, which required the establishment and maintenance of an "institution for the blind." An "institution" was accordingly created, which was affirmed to be for the extension of aid to the needy blind. Soon after, in 1913 and 1914, the court was called upon to test the application and constitutionality, not only of this enactment, but of all the pension laws on the statute books. Judgment was rendered on three cases, involving separate matters, all of which were decided together, namely, *State v. Edmondson*, *State v. Benham*, and *State v. Sayre*.[1] The first of these was brought after the demand of a blind man for a pension under the law of 1908 had been refused by the auditor of a certain county, on the ground that this law was unconstitutional, in which refusal the latter was upheld by the lower court. In the second case the relator had made application that a county treasurer be required to pay over to the State treasurer all moneys collected by tax levies for the benefit of the needy blind; but such county treasurer had also declined on the ground of the unconstitutionality of the law, and on the further ground that there were already orders for the benefit of the blind under existing enactments, in both of which particulars he was upheld by the lower court. The third case was an original action, in the form of a petition praying for a mandamus to obtain from a county auditor the relief provided in the Act of 1908 up to the time that the Act of 1913 became operative; the latter officer contending that the Act of 1908 was repealed by that of 1913, and also that the treasurer

[1] 89 Ohio, 351, 106 N. E., 41; affirming 1 Ohio App., 472, 17 Ohio C. C. (n. s.), 179. See also Report of Attorney General of Ohio, 1913, pp. 60, 833; 1914, pp. 278, 1340.

of the State had demanded from the treasurer of his county the transfer of the entire amount of the blind relief fund.

With these several causes before it, the higher Court went into a lengthy opinion as to the status of blind relief legislation in the State of Ohio. It reviewed the decision in *Auditor of Lucas County v. State*, and the grounds for this decision. It considered it to be held in that case that, inasmuch as the removal of a beneficiary to a home or institution not maintained by the State was declared by the statute not to destroy the benefits conferred by it, such was not a law for the public relief of poor persons, but for a bounty to "a certain selected class of persons." It further pointed out that in the original Act no provision had been made for the application of the funds for the support of the individual, or to keep him from becoming a public charge, or to control the use of the money; that payments only for life were not directed, nor limitations imposed with respect to the time or the needs of the donee, nor provision made for subsequent inquiry; and that the relief was, in the words of the prior decision, "an indeterminate, gratuitous annuity, a gift pure and simple," which could not be made from the public funds.

The Court then takes up the Act of 1908, and reviewing its provisions, notes the points of difference from its predecessor. In this statute blind relief commissioners are provided for; and it is declared that the aid given by them "shall be in place of all other relief of a public nature." The commissioners have power to inquire into the qualifications of all applicants, and to increase or decrease the amount allowed, or to discontinue it altogether. The relief is limited to those who are or who will become charges upon the public. That the new law is evidently drawn so as to avoid the defects of the previous one, the Court is convinced. It finds that—

> Every safeguard has been adopted to secure the application of the money to the support of the individual and prevent him from becoming a public charge. It is not an indeterminate

annuity, unlimited in time or uncertain in its application. . . . The express object, and the practical purpose, of the enactment is to furnish relief to the blind who are poor and needy.

It does not question that the "relief of the poor is a proper public purpose," granted to the legislature by the Constitution, together with the right to impose a tax for it, and that outdoor relief of the poor is a recognized duty on the part of the state. It discovers a special concern for the blind in the constitutional provision referring to the maintenance of an institution for them:

Since the Constitution has included the blind among those who shall be the objects of the solicitous consideration of the state, and since it has ever been the policy of the state to give assistance to the poor, infirm and disabled, legislation which defines and classifies poor or needy persons as beneficiaries of its provisions, and which does not make a capricious, arbitrary, or unreasonable provision [should be accepted by the courts].

The Court now passes to the consideration of the Act of 1913, in which an "institution" is created for the granting of relief for the blind, very much on the order of the original statute of 1904, one section of which purports to repeal the law of 1908. In expressing its view of the use of the term "institution" in this connection and of the general provisions of the enactment, it says:

We think it clear that by the use of the word "institutions" in Section 1 of Article VII of the Constitution it was intended to designate the places where, and the means by which, the afflictions of the persons referred to may be relieved. . . . We do not think that the use of the term "institution" in the statute under examination here, in connection with the board which shall administer the relief provided for, contributes anything to the validity of the law. An examination of the law of 1913 will disclose that it is open to many of the objections pointed out in *Auditor of Lucas County v. State*, as well as others.

There is a broad provision in Section 5 that any person who, by reason of loss of eyesight, is unable to provide himself or herself with the necessities of life, and has not sufficient means of his own or her own so to do, shall be entitled to the benefit of the law. Therefore, such a person, although he might have children

who would be able and be compelled by law to support him, or who actually would be supporting him, or who might have friends or relatives who would be willing to support him, or who would be actually doing so at the time, would still be entitled to receive payment under the law. In such a case the payment of the money could not be said to be a public object, but would be, as said in the Lucas case, the giving of a bounty pure and simple to one who had no real need for it in order to prevent his becoming a charge upon the public. . . . [The Act] does not furnish a definite method of adjusting the relief to the changing conditions and needs of the beneficiary. It is not continuing in its duration, and it in no way provides a proper safeguard. The legislature cannot be said to have the right to exercise the taxing power for the accomplishment of such a result.

Objection is also found to a provision which might give authority to an administrative board to review the final order of a court of record; while a provision which requires all funds in the hands of county treasurers accruing from the enforcement of the law of 1908 to be turned over to the State treasurer, is held to be unconstitutional for the reason that the proceeds of all taxes may be applied only for the purposes for which they were levied.

Up to this point it would appear that the blind, after all the efforts put forth to secure a pension for them in the State, were yet to have to go without one, inasmuch as one section of the Act of 1913 repealed the Act of 1908. This result, however, was not to be. The Court took all the sections of the former statute together, and found that as another section showed the intent of the legislature to prevent a postponement of the relief provided for, namely, by transferring the funds in the hands of the county treasurers to those of the State treasurer, the section in question did not effect the repeal of the Act of 1908. It acted on the principle that where an amendatory and repealing Act was a substitute for the law repealed, and the body of the Act was unconstitutional, the repealing clause was inoperative. Hence, although the statute of 1913 was unconstitutional, and of no effect, the Act of 1908, being in fact unrepealed, remained in force.

On one other particular in respect to pensions for the blind has judicial opinion been pronounced, though rather to interpret a matter called in question than to pass upon the constitutionality of a law. This has to do with pointing out the difference between a mandatory and a permissive law, some States having one and some the other. The question first arose in the case of *People v. Board of Supervisors of De Witt County*,[1] which came up in Illinois in 1911, the statute in this State being at the time of a permissive character. A blind man had sought by mandamus proceedings to compel the board of supervisors of the county in which he lived to appoint a physician to examine him and to allow him the relief as specified in the provisions of the law. The Court held that the Act was a purely discretionary one, and hence that the board of supervisors had power to grant or to withhold relief as it saw fit.

In a similar case in Kansas in 1914, *Gleason v. Board of Commissioners of Sedgwick County*,[2] a blind man, claiming to be destitute and to have complied with all the statutory requirements, had demanded the full amount authorized by the law, instead of ten dollars a month which he had been granted. The contention of the county board that the law was discretionary only was upheld by the Court. It pointed out that the Act was not mandatory, but merely authorized the payment of the full sum. Its reasoning was as follows:

> It is always the rule that the meaning of a statute is to be derived from its general terms and manifest purpose, and the most cursory or the most thorough examination of the legislation in question leads alike to the conclusion that there was no thought in the legislative mind of compelling each county board to grant a pension to every applicant coming within the terms prescribed. Aside from the fact that a pension is usually regarded as a matter of grace and not of right . . . the language of the original Act in the title and in both sections is clearly permissive and bears no indication of a mandatory pur-

[1] 161 Ill. App., 529.
[2] 92 Kans., 632, 141 Pac., 584.

pose. . . . Neither before nor after the enactment of this legislation did the persons therein described have a right *de jure* to such a pension, and had the legislature deemed it a matter of public obligation so to provide for citizens thus afflicted, no reason can be suggested why appropriate language was not used to express such intention.

CHAPTER XXXVIII

PENSIONS FOR THE BLIND: IN PRACTICAL APPLICATION

History of Pension Legislation for the Blind

The first public pension system for the blind in the United States was that created in the city of New York in 1875, when the department of charities was permitted to give them monetary assistance. In 1882 the total expenditure for this purpose was fixed at $20,000 a year. On the adoption of the present city Charter in 1897, the amount to be allowed was increased to $75,000 a year, but with not more than $100 to any one person. In 1913 the law was amended to permit the full grant of $100 to each person, with a total annual allowance of $150,000.[1]

Of the States with general pension laws, Ohio holds priority in point of time, as well as in point of experience. In 1898 a statute was enacted, as an amendment to the poor law, allowing counties to grant not more than $100 to worthy blind men over twenty-one years of age, and to worthy blind women over eighteen, who had no property or other means of support, and who had been in the State five years and in the county one.[2] In 1902 another law was passed, authorizing cities of the second grade of the second class (which applied to the city of Dayton only) to appropriate, or levy a tax to secure, a similar sum for each needy blind person who had been in the State five years and in the city three, the board of infirmary directors having charge of the funds.[3] In 1904 both these enactments were repealed, but for the former a practically equivalent

[1] Laws, 1875, ch. 404; 1882, ch. 410, §§ 194, 418; 1897, ch. 378, §§ 230, 676; 1901, ch. 466, §§ 230, 676; 1913, ch. 299.

[2] Laws, 1898, p. 270.

[3] Laws, 1902, p. 564.

law was substituted, with an allowance of $25 quarterly.[1] In 1906, as we have seen, this Act was declared unconstitutional; but at the next session of the legislature in 1908 a different law was placed upon the statute books, which it was hoped would meet the objections of the court. Special commissions, consisting of three members each, were provided for in each of the counties of the State, known as the "Blind Relief Commission," and in their hands was placed the levying and distribution of the funds. Relief in a sum not greater than $150 a year was extended in place of all other public aid; while a "needy" blind person was carefully defined, it being especially desired that this definition would prove a saving phrase to make the pension constitutional. To raise the necessary money for the pension, the counties were to levy a special tax of not more than two-tenths of one mill on each $100 of the assessed property valuation.[2] In 1910 the commissions were given power to increase or decrease the pensions, or to discontinue them altogether, as they might see fit, while the tax rate was raised to three-tenths of one mill.[3] In 1911 it was provided that no person might receive aid who could be benefited by surgical treatment, and that with the consent of such a person his allowance might be employed for this purpose.[4]

In 1913 the law was changed so as to dispense with the special relief commissions and transfer their duties to the regular boards of county commissioners.[5] In this year also, however, the existing legislation with respect to pensions for the blind, in large part contained in the Act of 1908, was repealed, and for it was substituted a new law. By this it was hoped that not only might all possible con-

[1] Laws, 1904, p. 392.

[2] Laws, 1908, pp. 56, 256; Ann. Gen. Code, 1912, §§ 2962–2970. The first draft of the Act was considered defective by the Attorney-General, and an amendment was adopted, defining a blind person within the meaning of the law. Members of the special commissions were allowed $2 a day, and traveling expenses.

[3] Laws, 1910, p. 50.

[4] Laws, 1911, p. 43.

[5] Laws, 1913, p. 60.

stitutional objections be removed, but that direct constitutional protection might be secured, while at the same time a very considerable increase in the amount of the pension would be obtained. The aim was really to reënact the main features of the invalid law of 1904 under cover of the reference in the Constitution to "institutions" for the blind. Advantage was taken of the provision of this instrument which declared that institutions for the blind and other classes should be established and maintained; and a statute was passed, creating an "institution for the blind," to mean under it a board of relief and benefit for the needy blind. This board was to be composed of three members; and by it a sum not exceeding $240 a year might be granted to a blind person who had been in the State five years, and who was unable to provide himself with the necessaries of life and had not sufficient means of his own so to do. A statement to this effect, vouched for by two citizens, was required to be filed with the probate judge of the county in which the applicant lived. For the purpose of carrying out the provisions of the Act, the several counties were authorized to levy a tax of not more than one-sixth mill on each $100 of the assessed property valuation of the State. All surplus proceeds from tax levies by counties under existing statutes were to be transferred to the State.[1] As we have seen, this law was found to be unconstitutional, and the Act of 1908, with its several amendments, which was supposed to have been repealed, remained in force. The final measure in present legislation in the State was effected when in 1914 counties in which no levy for the blind had been made were directed to transfer from their general funds an amount sufficient to answer for relief purposes.[2] The reason for this was that owing to the unconstitutionality of the Act of 1913 a number of the blind had received no pensions for many months, some counties having made no levies during 1912 and 1913.

[1] Laws, 1913, p. 833.
[2] Laws, 1914, p. 200; Ann. Gen. Code, Supp., 1916, §§ 2967–2—2967–4.

The next State to adopt a pension law was Illinois in 1903, this being of a permissive character.[1] In 1915 it was amended to become obligatory.[2] Wisconsin followed in 1907 with a permissive Act granting $100, which amount was increased in 1917 to $150.[3] In 1911 Kansas authorized pensions not only to the blind, but also to persons who had lost one or both hands, or one or both feet, or who were otherwise disabled, and who were otherwise unprovided for. A residence of fifteen years in the State, and of ten years in the county, was required. The amount specified was $50 a month, though for the extension of more than $25 a popular vote was necessary.[4] In 1913 the latter provision was stricken out.[5] In 1915 the law was amended to exclude persons deprived of but one hand or foot, and to reduce the period of residence to ten years in the State and two in the county.[6]

In 1913 the legislature of Missouri prepared an amendment to the Constitution of the State, to be submitted to the voters in the following year, which authorized the granting of pensions to the blind, by adding to Article IV, Section 47, the following:

> Provided, further, that nothing in this Constitution shall be construed as prohibiting the General Assembly from making provision by law for the payment of pensions or allowances to the deserving blind, or from granting and authorizing by law, counties or cities or incorporated villages of this State to provide for the granting and payment of such pensions or allowances.[7]

This, however, was defeated at the general election. In 1915 the legislature proposed the following amendment, which was adopted in 1916:

[1] Laws, 1903, p. 138; Ann. Stat., 1913, p. 839.
[2] Laws, 1915, p. 256.
[3] Laws, 1907, ch. 283; 1911, ch. 663; 1917, ch. 378; Stat., 1917, §§ 5721–5720.
[4] Laws, 1911, ch. 146.
[5] Laws, 1913, ch. 149.
[6] Laws, 1915, ch. 263; Gen. Stat., 1915, §§ 2810, 2811.
[7] Laws, 1913, p. 782. The vote was 214,951 for, and 255,717 against.

Provided, further, that nothing in this Constitution shall be considered as prohibiting the General Assembly from granting, or authorizing the granting of, pensions to the deserving blind, as may be provided and regulated by law.[1]

In 1915 four other States enacted pension laws: Iowa,[2] Maine,[3] Nebraska,[4] and New Hampshire.[5] In 1916 in Massachusetts the State commission on economy and efficiency was directed to report on the advisability of establishing a pension system for the blind.[6] In 1917 Maine, Nebraska, and New Hampshire amended their statutes in certain particulars, Nebraska increasing its allowance from $200 to $300. In the same year Idaho adopted a law.[7]

To judge from the recent growth of pension legislation for the blind in the United States, coupled with the general pension movement, there seems likely to be an extension of the project in coming years. Already in a number of additional States bills have been introduced providing for pensions, but have as yet failed of passage.[8] Though it is perhaps too soon to say how deep a hold the matter really has on the public, and while it is always possible that a reaction may set in, the indications are that, however slowly progress may be made, it is not probable that there will be a serious retrogression. As the condition and needs of the blind become known, especially as the result of organized effort, legislators as well as citizens generally are found more and more ready to listen with favor to the proposal. When an unwilling ear is turned, the reason more often

[1] Laws, 1915, p. 411. The vote was 385,627 for, and 272,908 against.
[2] Code, Supp., 1915, §§ 2722i–2722p.
[3] Laws, 1915, ch. 107; 1917, ch. 300; Rev. Stat., 1916, p. 1638.
[4] Laws, 1915, p. 640; 1917, ch. 171.
[5] Laws, 1915, ch. 94; 1917, ch. 27.
[6] Laws, 1916, Res., ch. 139.
[7] Laws, 1917, ch. 89.
[8] It may be noted here that in 1902 a bill was offered in Congress to pension all blind males over sixteen years of age, and all blind females over fourteen, who had lived one year in the United States and who did not have incomes over $450 a year, the amount to be allowed being $50 a month. 57th Congress, 1st Sess., H. R. Bill 15188, June 19, 1902.

than not lies simply in the fear of the expense that would be incurred by the public treasury.[1]

The efforts that have been put forth to secure pension systems have come in the largest part from the blind themselves. In more than one instance associations of the blind have taken up the question, and have even conducted State-wide campaigns for the enactment of measures.[2] Now and then it has even occurred that blind persons have entered politics to show the strength they might exercise.[3] Friends of the blind have likewise had a part in securing legislation, very effective help sometimes being lent by organizations of workers. In certain cases a widespread interest has been taken in the matter, with now and then the presentation to the legislature of lengthy petitions praying for action.[4]

General Provisions of Present Pension Laws

Legal measures providing for pensions for the blind are now found in nine States, six of them being in the Middle West, two in New England, and one in the Far West. These States are Idaho, Illinois, Iowa, Kansas, Maine, Nebraska, New Hampshire, Ohio, and Wisconsin. In addition, in the State of New York grants are allowed on the part of the city of New York.[5]

The provisions of the laws are in the main similar. In some States the law is directory, the pension being required

[1] On reasons for the defeat of a proposed measure, see Report of Missouri School 1914, p. 16; 1915, p. 16.

[2] See *Outlook for the Blind*, x., 1916, p. 52; xi., 1917, p. 30; *Boston Herald*, Feb. 2, 1915.

[3] Occasionally it has happened that the proponents of legislation have overshot their mark. An illustration is found in the remarkable attempt in Ohio to secure a pension under cover of the term "institution" in the Constitution, which could possibly refer only to the school for the education of blind children. In this instance also endeavor was made to raise the amount from $150 a year to $240, when experience had shown that four-fifths of the counties of the State could not raise a greater sum than $75. The net result of this procedure was that the blind suffered considerably during the consequent period of litigation. See *Outlook for the Blind*, ix., 1915, p. 53.

[4] See Message of Governor of Ohio, 1908, p. 38.

[5] There are possibly additional pension systems of a local character.

to be granted: Idaho, Illinois, New Hampshire, New York, and Ohio. In others the law is of but permissive character, the matter being left to the discretion of designated officials: Iowa, Kansas, Maine, Nebraska, and Wisconsin. In most cases the funds are to be raised and distributed by the several counties, certain county officials being in charge, as the board of commissioners or of supervisors. In Maine the Governor and Council jointly have direction, local officers making report to them.[1] In New York City the administration is conducted by the department of charities. In all but two States the costs come from the regular public funds. In Ohio and Wisconsin there is a special tax authorized for the purpose, in the former State this being at the rate of three-tenths mill on each $100 of the assessed property valuation. The amount which may be allowed to each beneficiary varies from $100 to $600 a year, the most frequent sum being $150. In New York the amount is $100; in Illinois, Iowa, New Hampshire, Ohio, and Wisconsin, $150; in Idaho, $180;[2] in Maine, $200; in Nebraska, $300;[3] and in Kansas, $600. In New York the total annual expenditure for the purpose may not exceed $150,000. In most cases the figures specified represent maximum amounts, and smaller sums may be extended at the discretion of the officials. In several instances payment is required to be made quarterly.

The benefits are generally intended for the adult blind only. In certain States the age limit above which the pensions may be granted is specified, being twenty-one in Kansas and Maine, and twenty-one for males and eighteen for females in Idaho, Illinois, Iowa, Nebraska, and Wisconsin. As a usual thing, also, residence of a certain number of years in the State and of a smaller number in the county is required. In Illinois the respective periods are ten and three; in Kansas, ten and two; in Maine and Wisconsin, ten

[1] On pensions by counties in Maine, see Message of Governor, 1917, p. 17.

[2] If there are more than one blind person in a single family, the total allowance is $250.

[3] The law does not apply to the county in which the State school is located.

and one; in Idaho, seven and three; and in Iowa, Nebraska, and New Hampshire, five and one.[1] In Ohio it is necessary that the beneficiary have become blind in the State, and have lived in the county one year. In New York the beneficiary must be a citizen of the United States, and have been a resident of the city for two years.

A further condition to entitle a person to aid is that his annual income be not greater than a certain sum. In Illinois and Wisconsin this is $250, and in Iowa and Nebraska $300.[2] In these States, and also in Maine and New York, it is likewise enjoined that the recipients be not inmates of public or private institutions. The relief being for those who otherwise would become public charges, it is declared in most statutes that this is afforded in place of all other public aid. In New Hampshire and Ohio, the pension is for one "unable to provide the necessities of life, and who has not sufficient means of his own to enable him to maintain himself." In Idaho and Maine there are similar terms. In Kansas the relief is for those for whom parents or other near relatives are financially unable to care.

The regulations surrounding the acceptance of applicants are stricter in some States than in others. In practically every case the application must be accompanied by affidavits of two citizens, one of these frequently being a physician, in which testimony is offered as to the condition and need of the applicant, sometimes with the declaration that without the desired aid he will become a public charge. In a few cases the application must have been on file at least one year. The making of a false statement is declared to be perjury, for which special penalty may be attached. In most instances a fee of $2 is allowed to the physician who makes the ocular examination. Further to safeguard the extension of relief, and to limit it to deserving cases, it is provided in some States that additional examinations may

[1] In Idaho and Kansas the time of residence may be a shorter one in case of the more recent occurrence of blindness.

[2] In Iowa it is also provided that one must not be able to earn this sum.

be made at any time. In Ohio the grant may be increased or decreased, or discontinued altogether, in the discretion of the officials in charge. In Idaho, New Hampshire, and Ohio, the allowance may be used for surgical treatment if this appears likely to be beneficial.[1]

In the State of Kansas there is a rather comprehensive enactment, applying to other disabled classes besides the blind. It includes persons who have lost both feet, both hands, or both eyes, or who are wholly incapable of manual labor.

Results of the Pension Systems

Most of the pension laws are of such recent enactment as to allow an examination of the results of but few of them. In New York City the number of beneficiaries has been from five to nine hundred annually. Payments are made at irregular intervals. Up to 1913, when the amount for each was fixed at $100, the grant was usually about $50, not reaching the full sum allowed by law.[2]

It is to the State of Ohio that we may once more turn for the fullest experience with the pension system, and with the most helpful one in affording object lessons in the conduct of the plan. On the adoption of the comprehensive law in 1904, there were found to be many applicants; and not many of these, it seems, were refused a pension.[3] In 1905 there were some 2,800 blind persons receiving benefit, at a cost of $280,000.[4] After the enactment of the statute of 1908, which is now in force, the number of beneficiaries was for a time reduced, but later became even greater, while the expenditures have on the whole been considerably increased. In 1909 the number on the pension list was

[1] In Maine a person is considered blind who does not have more than one tenth of normal vision. In Nebraska one is blind who is destitute of useful vision.

[2] On a pension day in New York, see *Brooklyn Eagle*, July 6, 1908; *New York World*, Oct. 17, 1911.

[3] Pensions are even said to have been allowed to a few old soldiers in special homes who were receiving regular grants from the National Government, and also to certain pupils in the State school. *Outlook for the Blind*, i., 1908, p. 132.

[4] *Ibid.*, p. 12.

2,177; in 1911, 2,994; in 1914, 3,578; and in 1916, 4,338. The amount distributed in 1909 was $194,380; in 1911, $450,919;[1] in 1914, $299,595; and in 1916, $405,077.[2] There are still very many applicants, of whom two-thirds or more are accepted.[3] As time has gone on, stricter regulations have in general been adopted.[4]

In Illinois, as we have seen, the law was of but permissive character until 1915. In 1904, just after its passage, there were 217 persons receiving pensions in 24 of the 106 counties of the State.[5] In 1911 there were 429, in 31 counties.[6]

[1] The high figure in 1911 is in large part due to the taking over of the administration by the several counties; while the low figures in subsequent years are to be explained in no small part by the litigation over the constitutionality of the law.

[2] In 1911 the ages of the pensioners were as follows: under 16, 1.5 per cent; 16–20, 1.9 per cent; 21–30, 8.9 per cent; 31–40, 9.3 per cent; 41–50, 13.4 per cent; 51–60, 18.6 per cent; 61–70, 20.6 per cent; 71–80, 17.2 per cent; 81–90, 7.9 per cent; and over 90, 0.7 per cent. In 1913 the proportion under 16 was 3.7 per cent; from 21 to 50, 38.1 per cent; from 51 to 70, 37.2 per cent; from 71 to 90, 19.7 per cent; and over 90, 1.3 per cent.

[3] *Outlook for the Blind*, ix., 1915, p. 55. About 10 per cent are rejected for the reason that they are not blind. Of 703 applicants considered in one county (Hamilton) from 1908 to 1916, 252, or 35.8 per cent, were rejected—79, or 11.1 per cent, as not being blind; 64, or 9.0 per cent, as not being needy; 12, or 1.7 per cent, as not being residents; 9, or 1.3 per cent, as not having become blind within the State; 18, or 2.6 per cent, as having removed from the county and State; and 11, or 1.6 per cent, as being unable to file proper affidavits—there also being 54, or 7.7 per cent, in institutions or homes.

[4] In some counties very full regulations are adopted, and careful records kept. Inmates of homes may be assisted on condition that they leave. Persons entering homes which require an entrance fee may be allowed an amount to equal such fee. In certain instances, if the relief is the only means of support to be had, and it otherwise appears best, this relief may be withheld altogether, thus forcing entrance into the county infirmary. Aid may be granted to a minor if it has no other means of support, in some cases for clothing and transportation to and from a school for the blind. Children of blind parents may not be relieved of their legal obligations. Under a ruling of the Attorney-General of the State, aid may be extended to war veterans receiving pensions from the National Government, but perhaps suitably reduced in amount. To entitle one to a pension, mendicancy must be given up; and no assistance is granted to persons of vicious habits. As far as possible, encouragement is given to persons who try to help themselves. In large cities charitable organizations may sometimes be availed of to make investigations, with possibly a payment for each case in the city of 75 cents, and in the country of $1.50. On the granting of pensions in Ohio, see Ohio Bulletin of Charities and Correction, xv., 1909, 1, Feb., p. 28; xvi., 1910, 2, May, pp. 58, 62, 93; xx., 1914, 5, Dec., p. 171; xxi., 1915, 2, June, p. 100; *Lancet-Clinic*, lxix. (n. s.), 1912, p. 172; lxxi., 1913, p. 487; *Outlook for the Blind*, ix., 1915, p. 79; Louis Stricker, *op. cit.*, pp. 65, 67, 70.

[5] Report of Illinois Board of Charities, 1904, p. 12.

[6] Report of Illinois Charities Commission, 1911, p. 445. In the remaining counties there were 345 applicants.

In 1915, following the amendment making the statute directory, there were 646 beneficiaries, found in 51 counties; while the amount distributed was $92,910.[1] In 1917 the number aided approached 2,000, with a corresponding expenditure.[2]

In New Hampshire the number receiving pensions in 1917 was 50, and the total amount granted $6,508.[3] In Wisconsin the number receiving pensions is about 300. In other States the number of beneficiaries is reported to be small.

In all the public pension systems of the United States, the total amount granted is perhaps close to one million dollars. The total number of blind persons aided probably exceeds seven thousand.

Public Pensions of Incidental Character and Private Pensions for the Blind

In addition to the regular pension systems for the blind in the United States, there are several other forms of pecuniary relief or assistance for them, either as public pensions benefiting them incidentally, or as private pensions. In certain counties or municipalities aid has been extended to the blind as part of their customary relief work, without specific designation, though this perhaps may not be regarded as a pension.[4] In Indiana a law was enacted in 1857, and still in force, allowing money to be dispensed by counties, at their discretion, to helpless blind persons directly, in lieu of their being sent to the almshouse, to avoid separation from their families.[5]

[1] Illinois Institution Quarterly, vii., 1916, 1, March, p. 32; 3, Sept., p. 21. In seventeen counties the funds came from outdoor relief. From Jan. 1, 1916, to April 1, 1916, there were 308 applicants in one county, of whom 165 were accepted.

[2] *Ibid.*, ix., 1918, 3, Sept., p. 61; Proceedings of National Conference of Social Work, 1918, p. 269. In counties where trachoma is very prevalent, pensions are largely for persons blind from this cause.

[3] To 26 persons the full amount was granted.

[4] As an instance of allowances by counties to parents of blind children, see Report of Kentucky School, 1875, p. 14.

[5] Laws, 1857, p. 18; 1873, p. 106; Ann. Stat., 1914, § 6039. There seems to be no report of any aid thus extended.

Pensions for blind war veterans by the National Government are not, strictly speaking, pensions for the blind. They are allowances in consideration of past services, in which incapacitation of various kinds operates to secure a larger benefit than might otherwise be the case, the loss of sight being included in such incapacitation. Under the pension law in effect prior to the European war,[1] the sum of $100 a month is granted to veterans who have been deprived of vision in both eyes, or who are totally blind.[2] The number of blind persons now on the pension roll is slightly under three hundred.[3]

In nearly all the Southern States pensions are allowed to blind Confederate veterans, ranging from one hundred dollars to three hundred dollars a year for the loss of both eyes, and sometimes with a smaller sum for the loss of one. In Georgia the Constitution expressly authorizes the legislature to make appropriations for this purpose.[4] The amount granted is $96 in South Carolina;[5] $100 in Alabama,[6] Arkansas,[7] Georgia,[8] and Texas;[9] $120 in North

[1] On provisions for persons blinded in the European war, see Chapter XLV.

[2] Stat., 1864, p. 387; 1866, p. 56; 1868, p. 237; 1873, p. 568; Comp. Stat., 1874, § 8950; Stat., 1878, p. 144; 1879, p. 484; 1904, p. 163; Comp. Stat., 1916, § 8958. See also United States Children's Bureau, Publication no. 28, 1917, pp. 15, 213. The amount was at first $25 a month; in 1873 it was increased to $13.25; in 1874 to $50; in 1878 to $72; and in 1904 to $100. By administrative ruling, $17 is now allowed for the loss of an eye, and $12 for the loss of sight in one. For permanently helpless children of deceased officers or soldiers, grants of $2 a month may be allowed beyond the age of sixteen, provided this age had not been reached at the time of the father's death. U. S. Comp. Stat., §§ 8977–8990. Efforts have been made to increase the age to twenty-two, and the amount to $250 a year, it being believed that some 50 blind persons would thus be affected. See Proceedings of American Association of Workers for the Blind, 1905, p. 13; 1907, p. 129.

[3] In Pennsylvania it has been found that of 1,973 blind persons investigated, 6.8 per cent received a pension, either as veterans or as widows of such, and that the amount extended ranged from $8 to $100 a month. Report of Pennsylvania Institution, 1909, p. 22. In New Jersey the proportion supported by pensions is, as we have seen, 5.3 per cent.

[4] Art. VII, sec. 1.

[5] Laws, 1903, ch. 24; 1904, p. 377; Civil Code, 1912, §§ 1539, 1541.

[6] Laws, 1899, p. 226; 1901, p. 168; 1907, p. 302; 1911, p. 694; Code, 1907, §§ 1996, 2017, 2023.

[7] Laws, 1901, p. 82; 1907, ch. 52; Dig. Stat., 1916, § 7381.

[8] Laws, 1879, p. 41; 1893, p. 1007; 1894, p. 32; 1899, p. 19; 1905, p. 133; 1912, p. 84; Ann. Code, 1914, § 1485.

[9] Laws, 1913, p. 282; Ann. Civil Stat., 1914, § 6279. A similar amount is allowed to widows of blind veterans.

Carolina;[1] $125 in Mississippi;[2] $150 in Florida[3] and Virginia;[4] and $300 in Tennessee.[5]

Private pensions for the blind in the United States have been rare. In Massachusetts there is a limited fund, the result of a bequest, which yields from $40 to $100 a year to each of a small number of persons.[6] Occasional gifts have been made for the benefit of the blind, but not in the form of pensions.

[1] Laws, 1879, ch. 193; 1883, ch. 341; 1899, ch. 619; 1901, ch. 332; 1907, ch. 60; 1913, ch. 187; Revisal, 1908, §§ 4991, 4992; Supp., 1913, §§ 4993, 4993a. For the loss of one eye, $32 is allowed.

[2] Ann. Code, 1917, § 6311. To widows of blind veterans $75 is granted.

[3] Laws, 1901, ch. 4894; 1907, ch. 5600; 1909, ch. 5885; 1913, ch. 6424; Comp. Laws, 1914, § 751. For the loss of one eye, $125 is allowed.

[4] Laws, 1888, p. 469; 1900, p. 1257; 1902, p.4 72; 1904, p. 351; 1906, p. 214; 1908, p. 217; 1910, p. 379; Code, 1904, § 382a; Supp., 1910, § 382a. The amount was formerly $100.

[5] Laws, 1879, ch. 49; 1891, ch. 64; Ann. Code, 1917, § 2715. For the loss of one eye, $100 is allowed.

[6] This is known as the Harris Fund, amounting to $80,000, in the hands of the Perkins Institution. By order of the Court two-thirds is allowed for educational purposes, and one third for pension purposes, preference in respect to the latter being given to aged blind persons living in Charlestown. See *Charities Review*, x., 1901, p. 582. Reference has been made to the special funds given for the benefit of certain deaf-blind persons.

CHAPTER XXXIX

INDEMNITIES PAID FOR THE LOSS OF SIGHT: THROUGH SUITS AT LAW

The Offer of the Payment of Indemnity on the Loss of Sight as a Means of Extending Relief to the Blind, and in Lieu of Other Measures

The extension of pecuniary aid to blind persons in payments at stated intervals, merely as a measure of relief demanded by the existence in society of a number of persons so disabled, and without regard to the manner or the occasion of the occurrence of the affliction, constitutes, as we have seen, the pension system. But it is possible that in many cases such tender may be effected according to very different principles, and on a very different basis. This is through the allowance of indemnities *for the loss of sight;* that is, compensation may be afforded in direct consequence of the deprivation of the sense of vision, and entirely in connection with the event that gave rise to it. There is thus provided an award or indemnity, whether proffered in a single sum at the moment or in subsequent periodical installments, for the disability or misfortune, and one that is to be regarded as taking the place of all other forms of relief.

The plan of indemnification for the loss of sight appears to be one proper and acceptable, from every point of view, for the material assistance of the blind. In it there is presented a quite satisfactory substitute for the pension, with scarcely any of its objectionable features. The greatest merit of the indemnification plan, however, lies in the positive good which it may do in calling attention to and emphasizing the matter of the prevention of blindness. In

the premium which it thus puts on the protection of the sight, both on the part of the individual and on the part of society, it may accomplish results of the highest importance, and not possible by any other means.

The plan contains, in fact, what may be accounted the one really scientific solution of the problem of relief to the sightless, so far as such a solution is to be had. It may be regarded, not merely as a new way of treating the problem, but as the opening up of a sound and effective policy of dealing with it. It may be that the working out of anything like a complete program is to be reserved for the future, perhaps one not now near at hand; but with our interest in social insurance in its several phases at present very perceptibly on the increase, we have in the granting of indemnity for the loss of sight, while but a part of the full procedure in respect to the matter, the one generally commendable method of meeting the situation occasioned by the occurrence of blindness in society.

With the loss of sight thus looked upon, there would seem to be no further call for a system of pensions or other form of material assistance for the blind, there being provided a proper and full substitute. On the plan, however, there is imposed, as we have previously noted, a very serious restriction. This lies in the fact that it can now affect but a very small portion of the existing blind population, not reaching the great number already in such a state. Even when adopted on a comprehensive scale, it will have to apply largely to the future. For the blind now found among us for whom no provision was made on the befalling of their affliction, it may not be availed of. In respect to them we are left for the present only with the possibility of resort to other measures.

The indemnities to be afforded for the loss of sight may assume several forms. With them all there has been practical experience to a greater or less extent; and there is thus little that is actually new to be set before us, though relation to the question of the occasioning of blindness has as yet

been appreciated in but inconsiderable degree. The first form is through suits at law against the party to be held legally liable for the injury to the sight, which is to be treated of in the present chapter. The next form is through personal insurance against the loss of vision, as effected by means of different agencies, which is to be examined in the following chapter. The third form is through measures of a public nature, either as a direct public allowance, or with public assistance or under public compulsion, the latter of which finds expression in laws directing compensation for injured workingmen, all being dealt with in the two succeeding chapters.[1]

Principles of the Law Governing Suits for Recovery

Practically always under the common law it has been possible for an action to be brought to recover compensatory damages against a person who, by acts of commission or of omission, by his deliberate misconduct or by his culpable laches, has caused the destruction of sight in one or both eyes. This proceeds from the all-embracing legal principle that an action in tort, or *ex delictu*, lies against one inflicting personal injuries, where the injured party is blameless, and the party responsible for the injury has acted maliciously, or, in the absence of malice or intentional wrong-doing, with reckless disregard of the consequences of his deeds, or without the exercise of the care and caution which the situation has demanded, and which was to be expected of an ordinarily and reasonably prudent man. All come under the general law of negligence, suits for the impairment or loss of vision being simply illustrations of its various aspects. Such actions may be divided into three groups: actions against individuals; actions against corporations not employers; and actions against employers.

[1] In these chapters consideration is logically called for in respect to injuries to the sight of one eye, as well as in respect to injuries to that of both, though it is only the latter, as we have found, which really constitute blindness.

Illustrations in Actions against Individuals

Actions may be brought against individuals for harm done to the sight from various causes. Where this results from malicious assault, recovery is hardly to be questioned.[1] Eyes may also be injured through the accidental discharge of firearms, as in hunting, and if the person employing the weapon has been negligent, he may be held to damages.[2] If the shooting happens to be particularly wanton and shows gross negligence, even though the consequences are not intended, recovery is all the more certain.[3] Similarly, a person receiving injury to the eye through reckless driving by another has a right of action.[4]

On the other hand, if the injured person has himself been negligent, or has had part in illegal proceedings, the law will not come to his aid, and he is left without remedy.[5] Likewise in accidents resulting from play or sport, in which

[1] Where in an assault an eye was cut out, damages in the sum of $2,500 were allowed. *Orscheln v. Scott*, 106 Mo. App., 583, 80 S. W., 982 (1904). See also 79 Mo. App., 534 (1897), 90 Mo. App., 352 (1901).

[2] Where a man was out hunting with friends, who in shooting at quail wounded him in the eye and elsewhere, it was held that the burden was not on him to prove that he was exercising due care, the negligence resting with his companions. *Harrison v. Allen*, 179 Ill. App., 520 (1913). Where a person was struck by the discharge of a cannon on a vessel firing a salute, as the result of defective wadding, whereby he lost the sight of one eye and was otherwise injured, he was allowed to recover $3,000 from the owner of the vessel, though the latter had nothing to do with the firing of the cannon. *Benagam v. Plassan*, 15 La., 703 (1860).

[3] Where a child was playing in front of a house and was causing a disturbance, and the houseowner fired a revolver to frighten him away, whereby the former was shot in the eye, $2,900 was recovered, the sum including compensation for future loss of services. *Seltzer v. Saxton*, 71 Ill. App., 229 (1896).

[4] Where a horse was frightened by an automobile going very fast and making much noise, and ran away, causing the loss of an eye, the sum of $1,200 was allowed. *Shinkle v. McCullough*, 116 Ky., 960, 25 Ky. Law Rep., 1143, 77 S. W., 196, 105 Am. St. Rep., 249 (1903). Where a person lost an eye on being struck by an automobile going very fast and in violation of a city ordinance, there was *prima facie* negligence, and $2,000 was awarded. *Ware v. Lamar*, 18 Ga. App., 673, 90 S. E., 364 (1916). For serious injury to one eye and other injuries from a collision of two automobiles at a street intersection, $8,125 was allowed. *Carson v. Turrish* (Minn.), 168 N. W., 349 (1918). See also *Keefe v. Lee*, 197 N. Y., 68, 90 N. E., 344, 27 L. R. A. (n. s.), 837; reversing 125 App. D., 903, 109 N. Y. Supp., 1134 (1908) (injury to eye and other parts from kick of horse).

[5] As where two persons in hunting quail entered upon the land of another upon which they had no right, and one of them was wounded in the eye and elsewhere as the result of reckless shooting on the part of the other. *Fristoe v. Boedeker*, 194 Ill. App., 52, 11 N. C. C. A., 611 (1915).

blame is to attach to no particular person, but in which injury to some one was clearly among the possibilities, recovery is generally not allowable.[1]

Another class of cases showing the application of the law of negligence to injuries to the eye is that involving suits for damages as a result of alleged improper medical treatment of this organ. Here the rule prevails that a person putting himself in the hands of physicians or surgeons may expect all the knowledge, experience, and skill belonging to members of the profession in good standing found in the general locality; and that for any want of due care and attention he may hold them responsible.[2] But it is a principle no less important that the negligence complained of must be fully established.[3] Demands of similar tenor are made of

[1] Where two schoolmates, one nine years of age, and the other ten, were playing different games—one at marbles and the other at racing—and the former was run into by the latter and knocked over, whereby the sight of an eye was destroyed, there was held to have been no actionable injury, all concerned having been engaged in innocent amusements. *Briese v. Maechtle*, 146 Wis., 89, 130 N. W., 893, 1 N. C. C. A., 769 (1911).

[2] A man who was injured in the eye by a fragment from an exploded railroad torpedo visited his own physician a week thereafter, and was sent by him to an eye specialist. By the latter only a perfunctory examination was made, and the sufferer was told that there was nothing in the eye, whereas a probe would have revealed the presence of a foreign substance. Later an operation was performed by the first physician, and a piece of tin one inch long and one-half inch wide was removed. It was held that as a matter of law the specialist could not be said to have exercised the due care and skill required in the circumstances. *Rann v. Twitchell*, 82 Vt., 79, 71 Atl., 1045, 20 L. R. A. (n. s.), 1030 (1906). Where an oculist was employed to remove a cyst from the eye, and allowed carbolic acid to fall upon it after the operation, from which an ulcer was caused and the sight destroyed, recovery was had, though the oculist testified that the ulcer had already been there. *James v. Robertson*, 39 Utah, 414, 117 Pac., 1068, 2 N. C. C. A., 782 (1911). Where the eyes of a patient were being treated for an ulcerated and granulated condition, and he was directed to use corrosive sublimate, from which one eye was destroyed and the other affected, the injured party testifying that he was directed to take the medicine undiluted, and the physician that he had directed that the medicine be first dropped into water, a verdict of $1,500 was rendered (though $25,000 had been asked for). *Thompson v. Martin*, 127 Mo. App., 34, 106 S. W., 535 (1907). Where it appeared that an eye had been treated very negligently, whereby its loss was occasioned, the sum of $362 was allowed, it being a question for the jury whether there had been improper treatment, and whether the physician had held himself out as a competent practitioner. *McMurdock v. Kimberlin*, 23 Mo. App., 523 (1886).

[3] Where a young girl whose vision had always been defective, and was cross-eyed, was operated on by a specialist, and afterwards lost her sight, no recovery was allowed, there being no proof of negligence or want of due skill on the part of the specialist. *Feeney v. Spalding*, 89 Me., 111, 35 Atl., 1027 (1896). Where it was

nurses and others holding themselves out in a professional capacity; [1] and even of druggists with respect to their filling of prescriptions.[2]

Illustrations in Actions against Corporations Other than Employers

Against corporations no less than against individuals, in the matter of injuries to the eye, the law of negligence finds illustration—and in far more frequent instances. Actions may be brought against corporations for ocular accidents caused in various ways. Suits of this character fall into two general divisions. The first includes suits against a corporation as an entity on exactly the same principles as suits against an individual whose negligence is responsible for damage to the sight. The second includes suits where the injury is to one employed by a corporation to perform labor for it, and arising out of or in the course of such employment. The latter class of cases is comprehended in the great law of master and servant, the negligence of the former in respect to the latter constituting one of its most important departments. This relation does not exist solely between an individual employee and a corporation employer, for an individual may, and in fact often is,

alleged that the sight of an eye had been destroyed as the result of an operation to remove a tumor from it, into which nitrate of silver had been injected, no recovery was had, as there was no evidence that the oculist had committed a gross error *Stern v. Lanng*, 106 La., 738, 31 So., 303 (1902).

[1] A patient in a sanitarium whose eyes were being treated had undiluted alcohol administered, instead of a mild solution, as had been ordered, from the effects of which he alleged that he became blind. As he had originally been advised to have one eye removed, and as it appeared that the alcohol did not in fact make the eye worse, but only caused much pain, damages in a small sum were awarded, these being assessed upon the physicians who owned the sanitarium. *Stanley v. Schumpert*, 117 La., 255, 41 So., 565, 6 L. R. A. (n. s.), 306, 116 Am. St. Rep., 202, 8 Ann. Cas., 1044 (1906). Where a dentist negligently spilled ammonia into his patient's eyes, which caused their permanent impairment, the sum of $750 was allowed. *Lemoine v. Sullivan*, 98 Ark., 609, 134 S. W., 946 (1911).

[2] In an action against a druggist for putting up a lotion for an eye into which lime had fallen, its loss resulting therefrom, recovery could be had, notwithstanding the fact that a skilled pharmacist had been employed as required by law. *Burgess v. Sims Drug Co.*, 114 Iowa, 275, 86 N. W., 307, 54 L. R. A., 364, 10 Am. Neg. Rep., 42 (1901).

an employer, to whom the same principles apply; but today in the great majority of cases the employer is a corporation.

In suits against corporations involving no elements of the law of master and servant, the most numerous are those against railway corporations or other common carriers in connection with their operation of trains or cars. Injuries giving rise to such suits are of two kinds: injuries to persons having the status of passengers, in respect to whose safety a peculiar duty is owed; and injuries to persons who are not passengers, and who may bring action on the general ground of tort.

In the transportation of passengers the law requires that a carrier exercise the utmost skill and care in providing for their protection, so far as it is in its power. This includes protection from dangerous apparatus or appliances, or from their careless handling.[1] It includes also protection from

[1] Where, as a result of an engine breaking loose from a train, a bell rope in a car was pulled in such manner as to cause the metallic end to strike a passenger in the eye, the defendant corporation was held to have been guilty of negligence. *Palmer v. Delaware & H. Canal Co.*, 11 N. Y. Sup. Ct., 112, 46 Hun, 486, 30 N. Y. St. Rep., 817, 32 N. Y. St. Rep., 872 (1887); affirmed, 120 N. Y., 170, 24 N. E., 302, 17 Am. St. Rep., 629 (1890). Where a passenger on the rear platform of a street car was struck in the eye by the end of a trolley rope which had been recklessly thrown around the side of the car by the conductor, it was held that the act was in itself negligent, and that the injury was the probable and natural consequence. *Coolidge v. La Crosse City Ry. Co.*, 136 Wis., 356, 117 N. W., 818 (1908). For an injury to the eye as the result of being struck by the handle of the brake as the passenger was leaving the car, the sum of $300 was allowed. *Schuler v. Third Avenue R. Co.*, 17 N. Y. Supp., 834 (1892). Where an explosion of the heating apparatus of a car caused impairment of sight and other injuries, the sum of $5,000 was allowed, the injured party being forty-three years of age and having an earning capacity of $190 a month. *Missouri, K. & T. Ry. Co. v. Huff* (Tex. Civ. App.), 32 S. W., 551 (1895). Where an eighteen-year old girl suffered loss of an eye and facial disfigurement as the result of being struck by a dining room utensil on board an ocean liner, she was awarded the sum of $7,500. *Korzib v. Netherlands American Steamship Co.*, 175 Fed., 998 (1910). On the other hand, where a passenger on a steamboat, as the result of a berth falling upon him, suffered only temporary loss of sight in one eye, a verdict of $5,000 was considered excessive. *Tinney v. New Jersey Steamboat Co.*, 12 Abb. Pr. (N. Y.), 1 (1872). Where, owing to failure to keep cars warm, a passenger contracted a cold during the night, which affected his sight and other parts, it was held that the alleged cause was too remote a one. *Hughes v. Pullman's Palace Car Co.*, 74 Fed., 499, 10 Am. Neg. Cas., 689 (1896). Where one eye of a passenger was destroyed and the other weakened from the entrance of a red hot cinder, a verdict of $20,000 was considered excessive, though he was forty-one years old and was earning $160 a month, as the evidence with regard to the cost of further treatment of the remaining eye was vague. *Missouri, K. & T. Ry. Co. v. Flood* (Tex. Civ. App.), 70 S. W., 331 (1902). For the loss of an eye of a passenger from the blowing in of a small piece of

the assaults of servants, even though due to personal malice on the part of the latter, and not arising in the course of their employment, it being presumed that only competent employees are engaged.[1] For injuries received in wrecks or in other accidents to trains, including collisions with vehicles or trains of other lines, damages may no less be claimed.[2] Similarly, passengers are to have sufficient time to board and alight from trains.[3] The obligations imposed

metal, $2,000 was allowed. *Trinity & B. V. Ry. Co. v. McDonald* (Tex. Civ. App.), 160 S. W., 984 (1913).

[1] Where a fifteen-year old boy was assaulted by a clerk on a boat in a dispute over the payment of fare, one eye being destroyed and other injuries received as a result, the sum of $4,400 was awarded. *Sherley v. Bildeigs*, 71 Ky., 147, 8 Am. Rep., 451 (1871). Where a porter wantonly assaulted a passenger, causing the impairment of sight and other injuries to the latter, damages in the sum of $2,500 were exacted of the employer corporation. *Galveston, H. & S. A. Ry. Co. v. Bean*, 45 Tex. Civ. App., 52, 99 S. W., 721 (1907).

[2] For impairment of eyesight resulting from injuries received when a car ran off the track on a curve, the sum of $2,500 was allowed. *McGrew v. Chicago & Milwaukee Electric R. Co.*, 142 Ill. App., 210 (1908). Where a train ran off the track, and a car the stove of which was full of hot coals was set on fire, causing the loss of both eyes and other injuries to an eight-year old boy, $25,000 was allowed. *Dunn v. Burlington, C. R. & N. Ry. Co.*, 35 Minn., 73, 27 N. W., 448 (1886). See also 122 U. S., 513. Where a passenger on a street car, in collision with a railway train, suffered injury to his eyes and other parts, $7,500 was allowed. *Beave v. St. Louis Transit Co.*, 212 Mo., 331, 111 S. W., 52 (1908). Where in a collision a passenger was struck in one eye by flying glass, $4,000 was recovered, though the eye had not since grown worse, and though his earning power was not affected. *Jewell v. Union Passenger Ry. Co.*, 40 Leg. Int. (Pa.), 36 (1883). For injury to an eye and other parts in a collision of two street cars, $4,500 was allowed. *Taylor v. Metropolitan St. Ry. Co.* (Mo. App.), 183 S. W., 1129 (1916). For injury to the eyes and other injuries from flying glass in a street car collision, $5,500 was allowed. *Huettner v. Minneapolis, St. P., R. & D. Electric Traction Co.*, 133 Minn., 368, 158 N. W., 611 (1916). See also *Louisville Ry. Co. v. Ellerhorst*, 129 Ky., 142, 110 S. W., 823 (1908).

[3] A woman sixty-one years of age and earning an annual salary of $2,500, who, on leaving a street car, was thrown from it as it started, and was made totally blind, was permitted to recover the sum of $13,580, the result being held not to be due to an antecedent condition. *O'Neill v. Metropolitan Street Ry. Co.*, 103 App. D., 607, 93 N. Y. Supp., 145 (1905). For injuries to the eye and other injuries to a woman thrown off a car while boarding it, the sum of $12,500 was recovered. *San Antonio Traction Co. v. Corley* (Tex. Civ. App.), 154 S. W., 621 (1913). Where a ten year old child suffered impairment of sight and other injuries when caught in the gate of a street car in the attempt to board it, $6,000 was allowed. *Hunt v. St. Paul City Ry. Co.*, 89 Minn., 448, 95 N. W., 312 (1903). Where a woman sixty-three years of age, in alighting from a street car, fell as it started forward, and was injured in the eye and elsewhere, the sum of $2,500 was recovered. *Simpson v. Peoria Ry. Co.*, 170 Ill. App., 307 (1913). Where in a fall from a train, in consequence of signals given by a flagman, and without contributory negligence, sight was impaired and other injuries sustained, $5,000 was allowed. *Georgia Pacific Ry. Co. v. Hudson*, 89 Ga., 558, 16 S. E., 70 (1892). But where a passenger, when his train gave a jerk in starting, was

on carriers even extend to the furnishing of safe appurtenances and surroundings at their stations, at which one is entitled to the same consideration that he is on trains; [1] and to protection as well from particles or missiles from trains, whether discharged from the track or from the cars.[2]

To persons not passengers railway corporations may respond in damages on the principles laid down in general suits for personal injuries, with general liability for their negligent acts, but usually with the exception of such as are not to be foreseen. Such injuries may be brought about

thrown upon the arm of a seat and was injured in one eye, it was held that there could be no recovery, as the conductor was not required to wait till all the passengers were seated. *International & G. N. Ry. Co. v. Copeland*, 60 Tex., 325, 6 Am. Neg. Cas., 504 (1883). For an injury to the eye from a cinder to a passenger standing at the door of a car, there being no room inside, the railway is not to blame. *Missouri, K. & T. Ry. Co. v. Orton*, 67 Kans., 848, 73 Pac., 63, 14 Am. Neg. Rep., 548 (1903). See also *Provance v. Missouri Southern R. Co.* (Mo. App.), 186 S. W., 955 (1916); *Richards v. Illinois Central R. Co.*, 197 Ill. App., 282 (1915).

[1] Where a person seeking to board a train was thrown by the crowds against the platform of the station, there not being enough agents on hand to preserve order, as a result of which his sight was impaired and other injuries received, damages to the extent of $10,000 were recovered. *Illinois Central R. Co. v. Treat*, 75 Ill. App., 326 (1898); affirmed, 179 Ill., 576, 54 N. E., 290 (1899). Where a passenger got off a train at night at a station unprovided with lights, and without railing, and fell therefrom, losing one eye and suffering other injuries, $576 was allowed. *Chesapeake & O. R. Co. v. Honley*, 155 Ky., 447, 159 S. W., 1147 (1913). To a trained nurse thirty-nine years of age, and earning $25 a week, the sum of $18,000 was allowed for the loss of one eye and the receiving of other injuries which resulted from a fall from the unlighted steps of a station. *Gulf, H. & S. A. Ry. Co. v. Watts* (Tex. Civ. App.), 182 S. W., 412 (1916). Where a drunken passenger at a station was struck by a railroad policeman, causing the loss of one eye, the sum of $5,000 was recovered. *Texas & P. Ry. Co. v. Bowlin*, 11 Tex. Civ. App., 271, 32 S. W., 918, 8 Am. Neg. Cas., 638 (1895).

[2] Where a mailbag was ejected from a passing train at a way station, hitting a window and causing glass to strike the eye of a young person in the waiting room, whereby its sight was destroyed, this handling of mailbags being proved to be a fairly common practice, the sum of $7,000 was allowed. *Shaw v. Chicago & G. T. Ry. Co.*, 123 Mich., 629, 82 N. W., 618, 49 L. R. A., 308, 81 Am. St. Rep., 230 (1900). Where a passenger waiting at a station for a train was struck by a fragment of torpedo placed on the track by a brakeman, losing the sight of one eye and having that of the other impaired, it was held a question for the jury whether the railway was liable, though the act of the employee was careless and was not done in the course of his employment. *Kansas City Southern Ry. Co. v. Willsie*, 224 Fed., 908, 10 N. C. C. A., 700 (1915). Where a prospective passenger standing on a station platform was struck in the eye by a piece of lead, it was regarded as circumstantially proved that the missile was part of a fuse expelled from a fuse box, as this metal was sometimes used for the purpose, the contention of the railway that it came from the bullet of a revolver which had lain on the track being rejected. *Davis v. Boston Electric Ry. Co.*, 222 Mass., 475, 111 N. E., 174, 12 N. C. C. A., 673 (1916).

in several ways by moving trains or cars. A party may be struck directly in his person;[1] or the vehicle in which he is being conveyed may be run into.[2] Missiles, including fragments from explosions, thrown off from passing trains may fly at one,[3] or there may be contact with electrical appliances carelessly set up or attended to.[4]

[1] Where a person was struck by a cable train, and his sight was impaired and other injuries sustained in consequence, the question of negligence was one for the jury. *West Chicago Street R. Co. v. McCallum*, 169 Ill., 240, 48 N. E., 424 (1897). Where a thirteen-year old boy was struck at a crossing in a city where no flagman was stationed, and where trains were passing in opposite directions and at great speed, whereby he lost his sight and suffered other injuries, the sum of $3,000 was allowed. *New Jersey Railroad & Transportation Co. v. West*, 32 N. J. L., 91 (1866). Where a woman on horseback was struck, as a result of which her sight was impaired and she suffered other injuries, she was allowed to recover $18,000. *Stewart v. Long Island R. Co.*, 54 App. D., 623, 66 N. Y. Supp., 436; affirmed, 166 N. Y., 604, 59 N. E., 1130 (1901).

[2] Where a person forty-five years old, in crossing in a wagon a railway track which was being laid by a track-laying machine, was struck, and in consequence lost one eye and had the other impaired, he could recover $6,500. *Dallas & G. Ry. Co. v. Able*, 72 Tex., 150, 9 S. W., 871 (1888). Where the wagon of a farm laborer collided with a street car, with injury to his eye in consequence, though not serious enough to affect his earning capacity, he was awarded $4,000. *Hitz v. Pittsburg & B. Street Ry. Co.*, 245 Pa., 7, 91 Atl., 215 (1914). Where a person driving across a railway track was struck by an engine which could not be seen because of moving cars on a switch, and was injured in the eyes and elsewhere, the sum of $1,641 was allowed. *Illinois Central R. Co. v. Morris*, 28 Ky. Law Rep., 956, 90 S. W., 979 (1906). Where a passenger on a street car received injury to his sight and in other parts as a result of a collision with a railway train, $2,500 was recovered. *Louisville, H. & St. L. Ry. Co. v. McDonald*, 33 Ky. Law Rep., 762, 111 S. W., 289 (1908).

[3] Where as a result of an explosion of powder from a passing train the eye of a young girl was destroyed and other injuries were sustained, $500 was allowed for the former injury and other sums for the latter (a release made at a time when the extent of the injuries was not known not being considered as fraudulent). *Tatman v. Philadelphia, B. & W. R. Co.* (Del.), 85 Atl., 716 (1913). Where a hot coal fell into one's eye from an elevated train passing overhead, recovery was denied on the ground that there was no evidence that the locomotive had been defectively provided for, or that the particular one could be identified. *Wiedmer v. New York Elevated R. Co.*, 114 N. Y., 462, 21 N. E., 1041 (1889). Where a passenger was riding on a surface car under elevated tracks, both of which were controlled by the same company, and a spark with a bit of hot iron fell into his eye from the latter, recovery was denied on the ground that there was no negligence, the accident being an unforeseen one. *Carney v. Boston Elevated Ry. Co.*, 212 Mass., 179, 98 N. E., 605, 42 L. R. A. (n. s.), 90 (1912).

[4] Where a person came into contact with a wire used to sustain a trolley wire, and among the injuries received had the sight of one eye impaired, the sum of $2,000 was allowed. *Clare v. Sacramento Electric Power and Light Co.*, 122 Cal., 504, 55 Pac., 326 (1898). Where a girl touched a telephone wire which had fallen across a trolley wire, and had her eyes weakened in consequence, the sum of $1,200 was allowed, the sum asked for, $2,000, being denied, as her eyes had not been strong before the accident. *Hoxsey v. St. Louis & S. Ry. Co.*, 184 Ill. App., 410 (1913). See also 171 Ill. App., 76 (1912). In building an elevated railroad a motorman

Besides railway corporations, there are corporations of divers other kinds—including also firms and associations, and even individuals conducting business undertakings not strictly in a single capacity—against which actions are possible at law to recover for injuries affecting the sight. First may perhaps be mentioned public service corporations other than carriers, especially telegraph and telephone companies, which are permitted to use the public ways. The chief source of danger lies in the leaving of unguarded holes in, or in the permitting of wires, especially when charged, to fall over, public thoroughfares.[1] Obstructions in public ways causing injury may sometimes be laid at the doors of construction companies doing work therein.[2] Even municipal corporations negligent in allowing encumbrances to be placed on streets or sidewalks may be required to answer in damages to travelers who, without fault of their own, suffer injury in consequence thereof.[3]

negligently propelled a car so as to cause a trolley pole to strike a steel brace being raised, as a result of which there was a violent electric explosion with a blinding flash. A person who in consequence received injury to her vision and elsewhere was denied recovery, as the occurrence was outside of ordinary experience, and was not to be anticipated. *Chiltick v. Philadelphia R. T. Co.*, 224 Pa., 13, 73 Atl., 4, 22 L. R. A. (n. s.), 1073 (1909).

[1] For the loss of one eye and the sustaining of other injuries as the result of a fall into a hole left exposed by a telephone company, damages in the sum of $25,000 were collected. *Perkins v. Sunset Telegraph and Telephone Co.*, 155 Cal., 712, 103 Pac., 190 (1909). Where a person received injury to the eye from driving into telephone wires the poles of which had been blown down by a storm, $7,500 was allowed. *Claussen v. Cumberland Telephone and Telegraph Co.*, 126 La., 1087, 53 So., 357 (1910). Where a conductor operating a street car while turning a trolley pole came into contact with the arc light of another company, as a result of which a piece of the shattered glass struck his eye and destroyed its sight, the sum of $4,935 was recovered, consideration being taken of the reduction in his earning power. *Rollins v. Central Maine Power Co.*, 112 Me., 175, 91 Atl., 837 (1914). Where a passenger on a boat, as the result of blasting operations on the shore, was injured in the eyes by a piece of rock, and was made cross-eyed, but without any serious impairment of sight, he was permitted to recover $3,000. *Smith v. Day*, 136 Fed., 964 (1905). For an injury to the eye and other injuries to a person standing by a newly installed telephone, from a flash of lightning, $1,000 was allowed. *Southern Telephone and Telegraph Co. v. Evans*, 54 Tex. Civ. App., 63, 116 S. W., 418 (1909).

[2] Where a person was injured by the taking fright of the horse which he was driving, at a steam roller, whereby he lost the sight of one eye, and suffered the impairment of the other, he was allowed $7,500 in damages, though he had resumed his former occupation. *Phelan v. Granite Bituminous Paving Co.*, 227 Mo. App., 666, 127 S. W., 318, 137 Am. St. Rep., 582 (1910).

[3] Contributory negligence may not be charged when one on a dark night avoids a

Among remaining corporations there are various examples of actionable wrongs, which have their origin in injuries to the eye. For the careless driving of vehicles belonging to them, corporations may be made to answer just as individuals.[1] In the disposition of high explosives the utmost precautions are insisted upon; and no excuses are accepted for their being left in exposed places, especially when children may be attracted by them and attempt to handle them.[2] Dealers in such explosives, moreover, are bound to know their character, and are responsible for representa-

dangerous sidewalk and chooses the street, and is injured by falling over débris. For the loss of an eye and the receiving of other injuries in such case to a locomotive engineer who is thereafter kept from his regular vocation, damages in the sum of $3,000 are not excessive. *City of East St. Louis v. Dougherty*, 71 Ill. App., 490 (1897). Where a medical student riding on the rear seat of a tandem bicycle struck at night an obstruction which could not be seen, and in consequence lost one eye and had the vision of the other impaired, $7,500 was recovered. *City of Louisville v. Keher*, 117 Ky., 841, 9 S. W., 270 (1904). Where a person walking on a street fell over a rope on the sidewalk, placed there to guard against an unsafe building, whereby he lost one eye and had the other injured, the sum of $1,500 was allowed, it being a question for the jury to decide whether the city had exercised reasonable care. *Place v. City of Yonkers*, 43 App. D., 380, 60 N. Y. Supp., 171, 6 Am. Neg. Rep., 641 (1899). Where a person walking on the street was blinded in both eyes by being struck by fragments of glass, iron, etc., from the explosion of the boiler of a steam peanut roaster, this having been allowed to obstruct the street for many weeks, as was known to the authorities, the sum of $10,000 was awarded. *Frank v. Village of Warsaw*, 198 N. Y., 463, 92 N. E., 17, 1 N. C. C. A., 917 (1910). See also *Horton v. City of Seattle*, 53 Wash., 316, 101 Pac., 1091 (1909). Where a gas pipe, exposed on a public highway, broke on being driven over by a traction engine, whereby an explosion was caused, resulting in injury to the eyes and other parts, the sum of $5,000 was awarded. *Indiana Natural & Illuminating Gas Co. v. McMath*, 26 Ind. App., 154, 57 N. E., 593, 59 N. E., 287 (1900).

[1] Where a nine-year old boy lost an eye as a result of being struck by one of a number of bars of iron loaded on a wagon and projecting from behind, the wagon being driven around a corner carelessly and at a rapid rate, and the bars not being able to be seen, damages in the sum of $2,500 were allowed. *Van Camp Hardware & Iron Co. v. O'Brien*, 28 Ind. App., 152, 62 N. E., 464 (1902). For an injury to the eye and other parts as a result of being run over by a vehicle which was recklessly driven, $2,500 was awarded. *Palmer Transfer Co. v. Eaves*, 27 Ky. Law Rep., 573, 85 S. W., 750 (1905).

[2] Where a dynamite cap left uncovered and near a much frequented path was exploded by an eleven year old boy, as a result of which he lost one eye and had the other injured, it was held to be a question for the jury whether the place could be regarded as a public one, and whether the dynamite had been deposited by employees of the defendant. *Barnett v. Mills*, 167 N. C., 576, 83 S. E., 826 (1914). But where it was proved that certain dynamite left in an open shanty where boys were playing, in consequence of the explosion of which the sight of one eye in a seven-year old boy was destroyed, was not the same as that which the defendant corporation had once put there, it was not liable. *Gralka v. Worth Bros. Co.*, 245 Pa., 467, 91 Atl., 494 (1914).

tions made respecting them; and if a more dangerous kind is sold than is supposed to be, there may be no escape from liability for consequent damage.[1]

The safety of customers at stores and other places to which they are invitees must be assured.[2] To workmen called in to do repair work surroundings free from danger must be afforded.[3] Persons in their homes and places of business must likewise be protected when construction or repair work is going on near by.[4] It may be added that in holding corporations responsible for injuries, the usual exception applies in the case of charitable and educational institutions.[5]

[1] Dynamite was bought at a hardware store under the representation that it was the proper kind for digging wells, as was desired, and that it could not explode without a cap. On being tamped in by means of a crowbar, the charge exploded, destroying both eyes of the purchaser. The owners of the store were held to have been negligent, and were required to pay $20,000, the previous earning power of the victim having been $2.50 a day. *Marsh v. Usk Hardware Co.*, 73 Wash., 543, 132 Pac., 241 (1913).

[2] For injuries to the eye and other parts received by a customer by a fall on a slippery incline in a department store, the sum of $7,500 was awarded. *Quirck v. Siegel Cooper Co.*, 43 App. D., 464, 60 N. Y. Supp., 228, 9 Am. Neg. Rep., 644 (1899). For injury to the eye and other parts to a patron of a restaurant, resulting from an explosion caused by the bringing of a light near gas, the sum of $10,000 was allowed, both the restaurant and the light company being held responsible. *Merrill v. Los Angeles Gas & Electric Co.*, 158 Cal., 499, 111 Pac., 534, 139 Am. St. Rep., 134, 31 L. R. A. (n. s.), 559 (1910).

[3] Where a workman assisting in the repair of the pipes of a boiler, inside of which he had placed himself, received injury to his sight and other parts, the sum of $6,500 was recovered, the defense of the corporation that it was a charitable one not being accepted. *Winona Technical Institute v. Stolte*, 173 Ind., 39, 89 N. E., 393 (1909).

[4] Where a stenographer in leaving her office was struck in the eye by an iron chip which came from the work of alteration of a brewery close at hand, $6,000 was allowed. *Okwell v. Skobis*, 126 Wis., 308, 105 N. W., 777 (1905).

[5] Where a person riding a bicycle was run over by a hospital ambulance, whereby he lost one of his eyes, the hospital was not held liable, inasmuch as the driver of the ambulance was not really its servant, being furnished, together with the horse, from a neighboring livery stable. *Kellogg v. Church Charity Foundation of Long Island*, 203 N. Y., 191, 96 N. E., 406, 3 N. C. C. A., 444 (1911). For the destruction of the eye of a student in a dental laboratory, as the result of the alleged negligence of an instructor, no recovery may be had from the institution of which it is a part. *Parks v. Northwestern University*, 121 Ill. App., 512; affirmed, 218 Ill., 381, 75 N. E., 991, 2 L. R. A. (n. s.), 556, 4 Ann. Cas., 103 (1905).

Illustrations in Actions against Employers

From actions against corporations for injuries of a private or personal character which we have examined, we pass to actions against corporations for injuries occurring in industrial employment and arising in connection therewith—actions of much greater importance numerically, and perhaps otherwise. Here we touch upon one of the great departments of the law, namely, the relationship of master and servant. In it the law of negligence as such may be said to have been removed from its independent position, and to have assumed a particular province in this greater field, or to have become a part of a special range of the law known as employer's liability.

As with the suits which we have previously considered, personal actions against employers for injuries sustained in the course of work, and chargeable to what is deemed to be negligence on their part, have long been an established principle of common law, affording in fact until late years the one basis upon which damages might be recovered. Because, however, of the usual relative weakness of the injured party, due in the main to his financial inability to prosecute a suit, with its frequent protracted litigation, the law has taken cognizance of the situation, and has in greater or less measure come to his aid, both by legislation and by court decisions. To do this, it has modified the rules grown up in the common law which affect the conduct of such actions, limiting or abrogating in certain particulars what had been regarded as the employer's defenses. These are known as the doctrines of assumed risk, contributory negligence, and negligence of fellow servants. Besides the increasing liberality of the courts towards injured employees in applying these defenses, there have been enacted in most of the States of the Union statutes expressly modifying them in varying degree in respect to some or all employments, in certain ones they being all but abandoned.

As the law has generally stood up to very recent times,

the principles governing the relationship of employer and employee, or of master and servant, have been rather clear and concise. Though the employer may not be regarded as the insurer of the safety of his employees, he is to exercise reasonable care and diligence in providing safe places and surroundings for their work, in respect to which he has knowledge or may reasonably be expected to have knowledge; and may not delegate such duty. He is to provide plants, machinery, ways, works, tools, and appliances which may fairly be presumed to be free from danger, and is, by due inspection, to see that they remain so. He is not required to furnish the most recent or the most costly devices to be found upon the market, but only those which are generally used by ordinarily prudent employers in the same lines of business. If his attention is called to any defect or improper construction constituting an element of insecurity, it is his duty to repair it promptly; and the employee does not assume any risk by continuing at work on the strength of this expectation unless it is plain that the matter has not been remedied. Nor is there upon the latter such an assumption if he is not made aware of the danger or if the danger is not an obvious one. The employer may be held for latent defects if they are such that he should have known about. In operations involving special hazard adequate safeguards must be provided, and full protection afforded, the employer in this respect being held to strict account. Towards young and inexperienced persons, and often also towards those at tasks for which they were not engaged, a peculiar duty is owed in the way of giving instruction and warning; and for injuries to them, particularly when the danger is not realized or appreciated, little excuse will be accepted, the defense of contributory negligence in such case bearing very lightly. The employer, moreover, is expected to supply suitable and competent fellow workers, so far as he may be able to judge of their fitness. In addition, the rule of *respondeat superior* prevails, the superintendent or other person having charge

of operations in the same general line of employment being regarded as a vice-principal and a representative of the actual employer, and the latter thus being made fully answerable. Finally, the failure to furnish the safeguards which the law is coming more and more particularly to direct, or the violation of general statutory provisions, is considered to aggravate an offense and to preclude exculpation.

The defenses which the employer has been permitted to interpose in actions by injured employees are few in number, but very important in the esteem of courts. The first, the doctrine of the assumption of risk, has been allowed to cover a multitude of matters. If, for example, an employee avails himself of a tool or appliance which is obviously defective or unsuited for the purpose in hand, or the condition of which he knows or should know, or which is open to reasonable inspection; or if he fails to judge the fitness of small and common tools, requiring little special skill in their handling and necessitating but slight inspection from the employer; or if he engages in an undertaking involving a danger such as he should recognize; or if, where a safe method of doing work is possible, he employs an unsafe one; or if, though aware of the existence of better devices, he remains content with inferior ones; or if with good tools within range, or if familiar with the location of such, he selects bad ones; or if well acquainted with the workings of his tools and appliances, he has occasion to detect an imperfection therein, and yet makes no complaint with respect thereto; or if, after making complaint, he continues in their use when it is apparent that no repair has been effected; or if, being in doubt as to their reasonable safety, and without attempt to assure himself, he goes ahead with them notwithstanding; or if, without objection, he sets about work different from that for which he has been engaged; or if, though an experienced worker, he elects to labor in a poorly lighted or otherwise unsatisfactory place—in all such cases the employee may be regarded as having assumed

the risk of injury, and in consequence is not entitled to recover from the employer. There are other situations also in which the employer may avoid liability. Though he is generally responsible for the furnishing of safe tools and appliances to his workmen, there is a limitation to his duty in this respect. Blame does not attach for defects which are invisible or latent, or which are not discoverable by inspection; nor for the providing of devices which are deemed to be ordinarily safe or which are in general use in his locality, the best on the market not being expected of him. Similarly, though usually chargeable for the orders issued by foremen or superiors, he may disclaim accountability when these are out of keeping with their authority or with the line of their employment. Lastly, he may escape responsibility for accidents in which no connection with his obligations can be established, or in which his fault is not to be taken as the certain and proximate cause; or for accidents of extraordinary character, or ones altogether unforeseen, and for which no provision could have been made, or ones involving negligence on the part of no one, or for accidents which may be regarded as such pure and simple.

The second defense is that of contributory negligence on the part of the employee in the causation of his injury. This partakes in considerable measure of the defense of assumed risk, shading into it in not a few particulars. It depends largely on whether failure to exercise reasonable care, or the care which the circumstances demand, may be imputed to the employee—as in plain recklessness; or in direct carelessness; or in remissly incurring obvious danger; or in omitting to employ proper safeguards, or to examine tools before using, or to look about before setting at an undertaking; or in declining to procure a safe device close at hand and employing an unsafe one; or in otherwise showing himself wanting in due prudence or circumspection in the performance of his task. In such case the employee is looked upon as sharing the blame for the injury befalling him, and hence is barred from recovery.

The third defense is comprehended in the fellow servant doctrine, the principle held forth being that the employer is not to be regarded as responsible for injuries which may be laid to the fault of co-employees, unless the unfitness of such has been made manifest.

Illustrations of all the foregoing principles are found in abundant and various instances in the prosecution of suits for injuries to the eye arising in the course of employment. In the matter of the initial demands of the law for safe surroundings, we have multiform examples. Here again attention may first be directed to accidents occurring in the operation of railway trains or cars, an industry which, because of its great importance and extent, occasions injuries of many kinds to those engaged in it. Accidents to the eye are of frequent happening to persons employed in the construction and maintenance of roadbeds, especially to section or track hands. Not a few of these are induced by the use of defective hammers, mauls, crowbars, cold chisels, etc., in driving or pulling spikes, or in cutting rails, whereby chips or particles broken off are caused to fly up and strike the eye; [1] while others are brought on in connec-

[1] *Johnson v. Missouri Pacific Ry. Co.*, 96 Mo., 340, 9 S. W., 790, 9 Am. St. Rep., 351 (1888) ($5,000 for the destruction of one eye and the impairment of the other, the victim being a section boss thirty-five years of age); *Dales v. Chicago, B. & Q. R. Co.*, 169 Mo., 183, 152 S. W., 401 (1912) (one eye lost); *Allen v. Cincinnati, N. O. & T. P. Ry. Co.*, 143 Ky., 723, 137 S. W., 230 (1911) (one eye lost); *Central Railroad & Banking Co. v. Attaway*, 90 Ga., 656, 16 S. E., 956 (1892) ($1,425 for one eye); *Georgia Railroad & Banking Co. v. Cosby*, 97 Ga., 299, 22 S. E., 912 (1894) (one eye lost); *Haire v. Schaff* (Mo. App.), 190 S. W., 56 (1916). Where a section hand who had protested against the use of a worn clawbar and had believed that it would be repaired, was injured in the eye by the breaking off of the head of a spike, it was held to be a question for the jury whether there had been contributory negligence on his part. *Hermanck v. Chicago & N. W. Ry. Co.*, 108 C. C. A., 254, 186 Fed., 142 (1911). Where an employee was "stripping" iron on a railroad and was using a battered chisel, which he had chosen from among several, and a sliver from which struck him in the eye, it was held that damages might be lessened in proportion to contributory negligence on his part, the jury deciding whether a reasonable man would have taken such a chisel. *Pope v. St. Louis S. W. Ry. Co.*, 106 Tex., 52, 155 S. W., 1175 (1913). See also 135 S. W., 1066. Where a section hand was working on the "frog plate" of a switch, one rivet of a bolt of which was missing, and, there being none at hand to replace it with, he was directed to use a spike, first cutting off the head, whereby his eye was struck and destroyed, the question of negligence was held one for the jury. *Hankinson v. Charleston & W. C. Ry. Co.*, 94 S. C., 150, 77 S. E., 863 (1912). An employee engaged in cutting a rail with a steel chisel which

tion with different forms of repair work on the right of way, as well as by the throwing off of missiles by passing trains.[1] To train crews who have in charge the actual operation of trains there is no less danger. This may result from improper or defective equipment of the rolling stock, as in the failure to provide suitable protection for glass gauges on locomotives; [2] or in the furnishing of unfit appliances on

was struck by a sledge hammer, was in apprehension as to the use of the chisel, and complained to his foreman. He was told by the latter that the tool was all right, and that if he did not like it, he could go home. Afraid of losing his job, the employee did as he was directed, and in the process a chip flew up, putting out the sight of one eye. It was held that he had not assumed the risk, and that the sum of $5,626 might be awarded. *New York, N. H. & H. R. Co. v. Vizvari*, 126 C. C. A., 632, 210 Fed., 118 (1913).

[1] Where an employee cutting brush on the right of way was using a poorly made adz, which had recently been repaired, and to which attention had been called, and had the sight of one eye destroyed as the result of a sliver of steel striking it, the sum of $2,500 was recovered, the jury having to decide whether the employer had exercised proper care. *Gekas v. Oregon-Washington R. & N. Co.*, 75 Ore., 243, 146 Pac., 970, 8 N. C. C. A., 386 (1915). Where a section hand lost an eye as the result of a cinder entering it from a passing train, the foreman failing to give directions to him to retire to a safe distance, it was held that he was not required to take the necessary precautions himself. *Pollock v. Houston & T. C. Ry. Co.*, 103 Tex., 69, 123 S. W., 408 (1908). See also 115 S. W., 843. Where an employee, observing the signal with respect to one blasting operation on a railway line, was injured in the eye by another, it was for the jury to decide whether he had reasonable warning. *Lexington & E. Ry. Co. v. Fields*, 152 Ky., 19, 153 S. W., 43, 4 N. C. C. A., 51 (1913). A verdict of $11,000 was allowed to stand for the loss of both eyes as the result of the explosion of a ladle of molten metal, used to solder the rails of a street railway line, which was poured on snow, at the orders of the foreman. *Falvai v. Calumet & S. C. Ry. Co.*, 177 Ill. App., 125 (1913). See also *Louisville & N. R. Co. v. Long*, 172 Ky., 436, 189 S. W., 435 (1916) (loss of one eye in seventeen-year old boy, from sliver of steel from passing train, in cutting weeds, the other eye being already gone); *Atchison, T. & S. F. R. Co. v. Thul*, 29 Kans., 466, 44 Am. Rep., 659 (1893) (sight of section hand impaired by steam from passing train).

[2] For the loss of an eye of a locomotive fireman from the bursting of a sight-feed glass in a lubricator, unprovided with a shield glass, $3,391 was recovered. *Stafford v. Maine Central R. Co.*, 94 Me., 178, 47 Atl., 148, 8 Am. Neg. Rep., 431 (1900). In a suit under an employers' liability Act, the sum of $11,500 was awarded to an engineer fifty-four years of age for the loss of one eye from the bursting of a lubricator glass, as he had assumed the risk only when the glass was subjected to normal pressure, and not when subjected to abnormal, there being at the same time a better lubricator on the market which was coming into use. *Chicago & N. W. Ry. Co. v. Bower*, 96 Neb., 419, 148 N. W., 145 (1914); affirmed, 241 U. S., 470, 36 Sup. Ct. Rep., 624. Where there was no water glass in the cab of a fireman, as was the usual practice, and one was improvised by him, which later exploded and caused the loss of an eye to the engineer, the sum of $15,000 was awarded, the injured party being young and having formerly received a good salary. *Chicago, R. I. & P. Ry. Co. v. De Vore*, 43 Okla., 534, 143 Pac., 864 (1914). A fireman found the shield over a water glass broken and complained to the engineer, threatening to leave unless it were mended, and receiving the promise that it would be. This was not done, however, and on

cars.[1] To them there is also liability to injury from the faulty operation of trains,[2] from the handling of dangerous substances,[3] or from defects in the construction of the road itself.[4] For injuries resulting to employees from collisions

the explosion of the glass the fireman lost an eye, for which the railway was held responsible. *St. Louis, I. M. & S. Ry. Co. v. Swaim*, 105 Ark., 224, 150 S. W., 861 (1912). An engineer was injured in the eye by the bursting of a water gauge glass, the protecting guard of which was wanting. He had been directed to run his engine notwithstanding, under the promise that a suitable guard would be supplied later. In a suit under the Federal liability law, it was held that the engineer had not assumed the risk, and that the railroad was negligent. *Seaboard Air Line R. Co. v. Horton*, 239 U. S., 595, 36 Sup. Ct. Rep., 180 (1915). See also 233 U. S., 492, 34 Sup. Ct. Rep., 635, 58 L. Ed., 1062, 8 N. C. C. A., 834, 162 N. C., 424, 78 S. E., 494, 85 S. E., 218. See also *Gordon v. Northern Pacific R. Co.*, 39 Mont., 571, 104 Pac., 679, 18 Ann. Cas., 583 (1909) (loss of eye from bursting of water gauge).

[1] Where a brakeman in coupling cars lost one eye and had the other injured as the result of being struck by a piece of iron from a defective draw-head, the sum of $5,000 was awarded. *Denver, T. & Ft. W. R. Co. v. Smock*, 23 Col., 456, 48 Pac., 681, 2 Am. Neg. Rep., 305 (1897). Where a fireman had his sight seriously impaired and sustained other serious injuries as the result of defective coupling between an engine and tender, $20,000 was allowed. *Sabine & E. T. Ry. Co. v. Ewing*, 7 Tex. Civ. App., 8, 26 S. W., 638 (1894). Where a conductor had the sight of one eye impaired and sustained other injuries as the result of pulling out a handhold, the nut of which was wanting, $20,000 was awarded. *Galveston, H. & S. A. Ry. Co. v. Harris* (Tex. Civ. App.), 172 S. W., 1129 (1915). Where a brakeman in repairing a car had the sight of one eye destroyed from a piece of steel from a defective tool flying into it, he was permitted to recover $5,000 (a release on consideration of the payment of one day's wages being regarded as invalid). *Freeman v. Morrow* (Tex. Civ. App.), 156 S. W., 284 (1913). An employee twenty-seven years of age working on a car from beneath was allowed damages in the sum of $6,700 for an injury to one eye as the result of a sliver striking it from a defective "pin maul" in the hands of a fellow employee. *Crader v. St. Louis & S. F. R. Co.*, 181 Mo. App., 526, 164 S. W., 678 (1914). Where an employee was ordered to unscrew a nipple on the bottom of an oil tank car, for the purpose of attaching a pipe, being told by the foreman on top that there was no danger, and being unable to know for himself, and, because the valve thereof was open, was rendered almost blind in one eye by the oil spouting out, $3,000 was awarded. *Galveston, H. & S. A. Ry. Co. v. Sanchez*, 57 Tex. Civ. App., 87, 122 S. W., 44 (1909).

[2] Where a brakeman on top of a car had one eye destroyed and the other injured by a hot coal from the engine flues, $10,000 was allowed, his previous earnings having been $125 a month. *Atchison, T. & S. F. Ry. Co. v. Hargrave* (Tex. Civ. App.), 177 S. W., 509 (1915). Where a postal clerk in a baggage car sustained the loss of an eye and other injuries as a result of a mail sack being thrown in, a new trial was ordered to determine the proximate cause of the accident, he having already had syphilis. *Cook v. Missouri Pacific Ry. Co.*, 94 Mo. App., 417, 68 S. W., 230 (1902).

[3] Where an employee was unloading ties wet with creosote, and, ignorant of the danger, was injured in one eye by the spattering of the liquid, the sum of $750 was recovered. *Gulf, C. & S. F. Ry. Co. v. Smith* (Tex. Civ. App.), 148 S. W., 820 (1912). Where an employee handling ties, into which, to prolong their life, a "liquid emulsion" containing carbolic acid had been injected, had his eyes injured by the poison when later wiping the perspiration from his face with his hands, $500 was awarded. *Cunningham v. Chicago, B. & Q. Ry. Co.*, 150 Mo. App., 617, 137 S. W., 600 (1911).

[4] A fireman placing his head outside the window of his cab was struck by a bridge

or other wrecks a railroad company is duly held responsible.[1] Such is likewise the case with respect to injuries happening to them while being transported on its lines to or from their accustomed places of work, they being regarded here simply as passengers, and not fellow servants of the train crew;[2] and with respect to injuries happening while in general promoting its interests.[3]

A large number of accidents causing the loss or impairment of vision occur in shops, mills, factories, and other

which was out of repair, whereby he was rendered practically incapacitated, including the loss of one eye. Being twenty-eight years of age, and having previously earned from $80 to $95 a month, he was allowed the sum of $10,000 as damages. *Missouri, K. & T. Ry. Co. v. Parker,* 20 Tex. Civ. App., 470, 49 S. W., 717, 50 S. W., 606 (1889). Where a lineman at work on the poles of an electric railway was told that the wires were dead, when in fact they were charged, and in consequence lost the entire sight of one eye and nine-tenths of that of the other, besides sustaining other injuries, he was awarded $30,000, his age being thirty-one years. *Commonwealth Electric Co. v. Rooney,* 138 Ill. App., 275 (1907).

[1] For injury to the eyes and other injuries received by a brakeman twenty-seven years of age from the falling of his train through a bridge, the sum of $6,000 was allowed, his previous earnings having been from $60 to $75 a month. *Houston & T. C. Ry. Co. v. Lowe* (Tex. Civ. App.), 11 S. W., 1065 (1889). Where an express messenger twenty-seven years old lost one eye and sustained other injuries in a wreck resulting from the sending of a train across a wooden bridge at the time of a flood, $11,500 was awarded. *Cobb v. St. Louis & H. Ry. Co.,* 149 Mo. App., 609, 50 S. W., 894 (1899). For the serious impairment of the sight and other injuries to an engineer occasioned by a wreck, $6,500 was granted. *Galveston, H. & S. A. Ry. Co. v. Fitzpatrick* (Tex. Civ. App.), 91 S. W., 355 (1906). For the impairment of sight and other injuries sustained in a collision by an engineer forty-six years of age, $14,000 was awarded. *Lynch v. Northern Pacific Ry. Co.,* 67 Wash., 113, 120 Pac., 882 (1912). For the loss of one eye and other injuries received in a collision by a fireman nineteen years of age, $7,500 was allowed (after a *remittitur* from $12,821), the accident being due to a train dispatcher, who was regarded as vice-principal. *Haynes v. Maine Central R. Co.,* 108 Me., 243, 80 Atl., 38 (1911).

[2] *Jachetta v. San Pedro, L. A. & S. L. R. Co.,* 36 Utah, 470, 105 Pac., 100, 52 L. R. A. (n. s.), 1106 (1909) (loss of one eye and other injuries from collision with timber on a box car). Where a porter was struck in the eye by glass in consequence of a collision, causing the loss of one and the impairment of the other, $3,000 was awarded. *Jones v. St. Louis S. W. Ry. Co.,* 125 Mo., 666, 28 S. W., 883, 46 Am. St. Rep., 514, 26 L. R. A., 718 (1894). See also *St. Louis S. W. Ry. Co. v. Brothers* (Tex. Civ. App.), 165 S. W., 488 (1914) (cinders entering eye of an employee being transported). For injury to the sight and other injuries from a derailment, to a mail clerk earning $1,400 a year, $15,000 was allowed. *Southern Pacific R. Co. v. Cavin,* 75 C. C. A., 350, 144 Fed., 348 (1906). For the loss of an eye to a mail clerk from a fall against a wire screen in attempting to open a door, $3,000 was allowed. *Missouri, K. & T. Ry. Co. v. Edmonds* (Okla.), 174 Pac., 1052 (1918).

[3] Where a clerk in the employ of a railroad was engaged in getting information regarding a rival line, and was attacked by a thug, whereby he lost one eye and received other injuries, the sum of $7,000 was allowed. *St. Louis, I. M. & S. R. Co. v. Grant,* 75 Ark., 579, 88 S. W., 580, 1133 (1905).

establishments, including railway repair shops, in which steel or other hard metals are employed. Here there may fly up chips or slivers broken off in different operations from defective tools, battered, burred, of inferior material, or otherwise unfit, such as hammers, chisels, mauls, punches, dies, boring tools, anvils, rivets, etc., either in the hands of the injured workman or in the hands of a fellow employee.[1]

[1] *Whitelaw v. Memphis & C. R. Co.*, 84 Tenn., 391, 1 S. W., 37 (1886) (both eyes eventually lost from cutting steel with cold chisel); *Herricks v. Chicago & E. I R. Co.*, 180 Ill. App., 565 (1913) ($1,400 allowed for the destruction of one eye from a burred "set" hammer, the victim being nineteen years of age); *Famous Mfg. Co. v. Harmon*, 28 Ind. App., 117, 62 N. E., 306 (1901) ($3,300 for loss of one eye in punching holes in iron, victim being thirty four years old); *Hocking v. Windsor Spring Co.*, 131 Wis., 532, 111 N. W., 685 (1907) ($5,000 for loss of one eye and impairment of other from an imperfectly set die in a puncture press for cutting bed slats); *Harvey v. Rome Scale & Mfg. Co.*, 13 Ga. App., 571, 79 S. E., 487 (1913) (hammer in blacksmithing department causing loss of one eye); *Sterling v. Parker-Washington Co.*, 185 Mo. App., 192, 170 S. W., 1156 (1914) ($7,054 for loss of one eye and impairment of other from sharpening chisel given by foreman); *Freeman v. Starr* (Tex. Civ. App.), 138 S. W., 1150 (1911) ($8,000 for loss of one eye from hammer of inferior nature); *Buchanan v. Gilder & Blanchard*, 59 Tex. Civ. App., 477, 127 S. W., 1153 (1910) ($2,500 for injury to eye from using steel cutter to cut off heads of rivets); *St. Louis, S. F. & T. Ry. Co. v. Jenkins* (Tex. Civ. App.), 137 S. W., 711 (1911) ($11,000 for the entire loss of one eye and two-thirds of sight in the other from removing rivets from a sheet of iron, at order of superintendent); *Ruck v. Chicago, M. & St. P. Ry. Co.*, 153 Wis., 158, 140 N. W., 1074 (1913) (injury to employee, while holding light for repair work on boiler, from burred head of steel punch used to cut rivets); *Young v. Champion Fiber Co.*, 159 N. C., 375, 74 S. E., 1051 (1912) (injury to eye from use of improper hammer to strike die, with insufficient lighting). Negligence was found for an injury to the eye as the result of the wrongful use of a sledge hammer on an anvil by an incompetent assistant, whose dismissal had been asked for and had been promised. *Lyberg v. Northern Pacific R. Co.*, 39 Minn., 15, 38 N. W., 632 (1888). Damages in the sum of $25,000 were allowed for the loss of both eyes caused while the injured party was holding a steel shafting in a vise which was struck by the foreman, the law making superintendent one vested with authority, no matter how little. *Cashmere v. Peerless Motor Car Co.*, 154 App. D., 814, 139 N. Y. Supp., 359 (1913). Where one eye was injured when in the making of craft shanks, a heated billet of metal, at the order of the vice-principal, was placed in a die and struck by a steam hammer, $5,000 was recovered. *Jorkiewicz v. American Brake Co.*, 186 Mo. App., 534, 172 S. W., 441 (1915). Where an employee who had been working continuously for forty-eight hours, with the knowledge of the employer, was holding a steel rod in a certain way in a rolling mill to be hammered by others, when another way was safer, and was injured in one eye, $2,500 was recovered. *Republic Iron & Steel Co. v. Ohler*, 161 Ind., 393, 68 N. E., 901 (1903). Where holes were being bored in an iron plate with a punch which had been discarded as dangerous, and was later picked up, on an order to hurry, causing a piece to hit the eye, negligence was charged to the employer. *Flick v. Globe Mfg. Co.*, 172 Iowa, 561, 154 N. W., 928 (1915). An employee engaged in making a thermite weld claimed to have been injured by the breaking of a pneumatic chisel used for cutting iron spikes, one eye being lost and the sight of the other impaired. The employer contended that the injury had been caused by manganese casting, which alone of the two

Similar possibilities exist in construction work of one kind and another, and also in repair work of various descriptions.[1] In operations with emery wheels or grindstones,

could be attracted by a magnet. A physician who treated the employee testified that he had been unable to draw out the particle in this way, though the piece presented could be so drawn. A verdict was rendered for the employee of $11,300 (with the disallowance of $950 for medical services and medicines, as not being proved to be reasonable). *Tuohy v. Columbia Steel Co.*, 61 Ore., 527, 122 Pac., 36 (1912). Where the loss of an eye resulted from the action of a boring tool, due to the worn condition of a nut in a lathe machine, which was known to the employer, and the repair of which was promised, $7,500 was recovered, the question of negligence being for the jury. *Hines v. Waltham Mfg. Co.*, 208 Mass., 282, 94 N. E., 464 (1911). Where one eye was lost in consequence of the use of a "soft head" hammer, the temper being affected, $3,682 was recovered, the negligence involved being a question for the jury. *Potvin v. West Bay City Shipbuilding Co.*, 156 Mich., 201, 120 N. W., 613 (1909). For the loss of an eye caused by the striking of a hammer upon a coopering tool, which was of special design, and liable to chip off, and the defects of which could have been discovered by inspection, $4,000 was awarded, the question as to whether it was handled properly being left to the jury. *Blankenship v. Hughes Paint & Glass Co.*, 154 Mo. App., 483, 135 S. W., 970 (1911). In the loss of an eye in driving rivets into a pipe, it is a question for the jury whether there has been negligence when the defect is obvious, and the tool is the only one at hand. *Campbell v. Gillespie Co.*, 69 N. J. L., 279, 55 Atl., 276 (1903). The question is one for the jury when an employee is required to operate a defective facing cutter, causing one eye to be destroyed, which had to be hammered at short intervals, and of which complaint had already been made. *Campbell v. Baldwin Locomotive Works*, 120 C. C. A., 630, 202 Fed., 497 (1913). The jury is to decide when an eye is injured by the flattened top of a bolt, it having been possible for the foreman to furnish a proper rivet. *Igo v. Boston Elevated R. Co.*, 204 Mass., 197, 90 N. E., 574 (1910). It is for the jury to determine, in the matter of an injury to the eye from a spark from the pin of a tube expander, whether there was negligence in providing a hardened pin. *Anderson v. Morrinan*, 202 Mass.,193, 88 N. E., 782 (1909). Where an eye is injured from the use of a cold chisel, it is for the jury to find whether orders had been given by the superintendent (evidence being allowed to show condition of remaining eye to determine amount of award). *Louisville & N. R. Co. v. Carter*, 195 Ala., 382, 70 So., 655 (1915). In the loss of one eye from the use of a defective chisel it is for the jury to say whether there was negligence in furnishing it. *Manning v. Portland Steel Shipbuilding Co.*, 52 Ore., 101, 96 Pac., 545 (1908). Damages may be awarded for the striking of the eye by a piece from a machine for trimming steel springs, caused by the fall of a heavy knife negligently placed on it. *Zuwodnick v. Higgins Spring & Axle Co.*, 151 Wis., 118, 138 N. W., 48 (1912). See also *Lytton v. Marion Mfg. Co.*, 157 N. C., 331, 72 S. E., 1055, Ann. Cas., 1913C, 358 (1911) (sight of one eye lost in the operation of a machine lathe from a defect in the mandrel); *Bertha v. Regal Motor Car Co.*, 180 Mich., 51, 146 N. W., 389, 8 N. C. C. A., 160 (1914) (destruction of sight in one eye and its impairment in the other from the use of a defective drill).

[1] Where one eye was lost in the construction of an ice tank in a brewery, the injured party holding a sledge hammer underneath, while another workman drove in the rivets from above by means of a hammer which had been cracked, $8,000 was recovered (after a *remittitur* of $1,000), his age being twenty-four years. *De la Vergne Refrigerator Co. v. Stahl*, 24 Tex. Civ. App., 471, 60 S. W., 319 (1900). For the loss of an eye occasioned in work on a fire escape from the use of a defective chisel manufactured by the employer, $1,500 may be recovered. *Pfeifer v. Eastern Metal Works*, 258 Ill., 427, 101 N. E., 548 (1913). Where an eye is injured from the

unless provided with proper safeguards, minute particles of stone or metal are constantly thrown off, some of which may enter the eye.[1] Not unlike results may occur with unguarded saws in wood-working.[2] Small fittings or appliances are likewise liable to be severed or to become loose, and hurled about.[3] Fragments may be thrown by the burst-

use of a battered tool employed in work by a chain gang, it is for the jury to decide whether the city is negligent. *Smith v. City of Rome*, 16 Ga. App., 96, 84 S. E., 734, 9 N. C. C. A., 133 (1915). Where an employee in a stone quarry had one eye put out and suffered other injuries by the rebound of an iron wedge held in his hand, and struck too heavily by a drunken fellow employee, $3,000 was allowed. *Maxwell v. Hannibal & St. J. R. Co.*, 85 Mo., 95 (1884).

[1] An employee who receives injury to his one remaining eye while chipping and smoothing rough castings for locomotive cranes, is not guilty of contributory negligence if in grinding tools on an emery wheel, without the guard required by law, he fails to wear the goggles provided by the employer, when he was not warned so to do, when a sign to such effect was covered with dust, and when others worked without them (amount of damages depending on loss in earning power). *Drake v. Industrial Works*, 174 Mich., 622, 140 N. W., 933 (1913). Where an employee who had been in the habit of sharpening a drill on an emery wheel, and had once been directed to do so by his superintendent, this not being provided with an exhaust fan, as was required by law, was injured in the eye, the negligence of the employer was regarded as the proximate cause, though the employer contended that the statute was intended to apply only to injuries to the lungs. *Jenney Electric Mfg. Co. v. Flannery*, 53 Ind. App., 397, 98 N. E., 424 (1912). For the loss of three-fourths of vision in one eye, caused by an unguarded emery wheel, $1,400 was allowed, the doctrine of assumed risks having been abolished by statute. *Sobeck v. Geo. H. Smith Steel Co.*, 158 Wis., 517, 149 N. W., 152 (1914). For the loss of one eye from a similar cause, $1,500 was allowed. *Bartlesville Zinc Co. v. James* (Okla.), 166 Pac., 1054 (1917).

[2] For the loss of sight in one eye and the impairment of that in the other, resulting from a piece of wood flying up from an unguarded revolving saw, $4,500 was allowed, the law requiring a guard. *Shaver v. J. Neils Lumber Co.*, 109 Minn., 376, 123 N. W., 1076 (1909). For the loss of sight in one eye and the impairment of that in the other from a rip saw not equipped with a splitter, $6,200 was allowed, the injured party being forty-three years of age. *Nelson v. A. H. Stange Co.*, 140 Wis., 657, 123 N. W., 152 (1909). Where one eye was lost and the other injured from the breaking off of the teeth of a saw, due to insufficient light to see and detect the danger, complaint of which had been made, and to the employment of a very careless fellow worker, $1,855 was recovered, the question of negligence being for the jury. *Smith v. E. W. Backus Lumber Co.*, 64 Minn., 447, 67 N. W., 358 (1896). Where the sight of one eye was destroyed by a splinter from a rip saw, which was without a safeguard, as required by law, the contention of the employer that the statute referred to actual contact only, and not to flying particles, was rejected, its language being regarded as broad enough to cover all forms of accidents. *Forrest v. Roper Furniture Co.*, 267 Ill., 331, 108 N. E., 328 (1915).

[3] Where an employee loses an eye from the use of a nail in putting hoops on barrels filled with soda, instead of a punch for which he had asked, negligence may be charged. *Wiley v. Solvay Process Co.*, 215 N. Y., 584, 109 N. E., 606 (1915). Where the plug of a pet cock on a riveting machine, the defect of which had been reported, blew out and caused injury to the eye, it was for the jury to decide if due care had been exercised in its use. *Oakey v. Robb-Mumford Boiler Co.*, 202 Mass., 340, 88

ing of boilers or other parts, or of bottles when heated or under great pressure.[1] The sight is no less affected by contact with harmful chemical or other substances.[2] A certain number of injuries are accounted for by the sudden impact of the loose end of broken belts.[3] Accidents also occur to

N. E., 892 (1909). Where an employee, driving rivets into an iron bridge by means of a pneumatic hammer, had the sight of one eye destroyed by the sudden starting of the piston, without the pulling of the trigger, the piston not having been cleaned or inspected for some time, negligence was charged against the employer. *Cormo v. Boston Bridge Works*, 205 Mass., 366, 91 N. E., 313 (1910). So where a shuttle flies out of a loom and destroys the sight, attention having twice previously been called to the defective machinery employed. *Jaques v. Great Falls Mfg. Co.*, 66 N. H., 482, 22 Atl., 552, 13 L. R. A., 824 (1891). For the loss of one eye from the flying up of a shuttle from a loom, $5,400 was recovered, the employee charged with the keeping in order of the machinery not being a fellow servant. *Gunter v. Graniteville Mfg. Co.*, 18 S. C., 262 (1882). For the loss of one eye through defective machinery in a candle and soap factory, $500 was allowed. *Quaid v. Cornwall & Bro.*, 76 Ky., 601 (1878). See also *Law v. Illinois Central R. Co.*, 126 C. C. A., 27, 208 Fed., 869 (1913) (flying up of nut, in riveting operations, when struck a glancing blow).

[1] Where the sight of one eye was destroyed and other injuries were sustained as the result of the bursting of a boiler, of the defective condition of which the employer was aware, recovery was allowed. *Eberts v. Mount Clemens Sugar Co.*, 182 Mich., 449, 148 N. W., 810, 7 N. C. C. A., 52 (1914). Where the heating of beer bottles caused their expansion, increased by the liberation of carbonic acid gas within, with the result that an employee engaged in distributing them lost the use of one eye from an explosion, the question was for the jury whether the employer should have known, the employee not being able to do so. *Ruck v. Milwaukee Brewing Co.*, 144 Wis., 404, 129 N. W., 414 (1911). See also *Ky. Wagon Co. v. Shake*, 137 Ky., 742, 126 S. W., 1095 (1910) (sight impaired and other injuries sustained from explosion of engine cylinder and breaking of piston rod).

[2] Where an employee thirty-four years of age making whitewash from unslaked lime, lost both eyes from its explosion, he was allowed to recover $8,000 ($9,500 being regarded as excessive), his previous earnings having been $1.50 a day. *Peterson v. Roessler & Hasslacher Chemical Co.*, 131 Fed., 156 (1904). Where an employee was directed to repair a tank containing sulphuric acid, a drop of which fell through a leak and destroyed the sight of one eye and impaired that of the other, a verdict of $175 was considered to be "grossly inadequate." *Whitehead v. Newton Oil & Mfg. Co.*, 105 Miss., 711, 63 So., 219 (1913). For the impairment of sight and other injuries caused by a stream of fire, coke, and gas from a blast furnace, to an employee while removing a "bosh plate," $1,700 was awarded. *Illinois Steel Co. v. Sitar*, 199 Ill., 116, 64 N. E., 984 (1902); affirming 98 Ill. App., 300.

[3] Where by the breaking of a belt, which had been cemented together, not under hydraulic pressure, as was customary, but by glue of inferior quality, a carpenter repairing the floor suffered the loss of one eye, with the probable eventual loss of the other, $12,500 was recovered, his age being fifty-one years, and his former earning power $1,000 a year. *Cummings v. National and Providence Worsted Mills*, 24 R. I., 390, 53 Atl., 280 (1902). Where the sight of one eye was destroyed and that of the other impaired from the breaking of a belt in wood working machinery, which was worn and had been frequently repaired, $6,000 was allowed, the employer being guilty of negligence if he knew of the danger, even though the employee was also aware. *Brossard v. Morgan Co.*, 150 Wis., 1, 136 N. W., 181 (1912). For the loss of one eye and injury to the other from the breaking of a belt in a planing

the eye from the striking of it by various objects.[1] In mines there are peculiar perils.[2] In the use of dangerous materials, especially explosives, there is very great hazard to the eyes.[3]

mill, which had been negligently repaired, $6,000 was recovered. *Johnson v. Pickering Land & Timber Co.*, 132 La., 425, 61 So., 514 (1913). Where an employee was injured in one eye by sand from a sanded belt, which a fellow employee carelessly allowed to be struck by a nut on the grinding apparatus, $3,500 was recovered. *Ferguson & Wheeler Land, Lumber, and Handle Co. v. Good*, 112 Ark., 260, 165 S. W., 628 (1914).

[1] An employee sorting shoe lasts in a shoe factory found the chute by which they were deposited to be clogged. While engaged in repairing this as he was directed, he was struck by a rod, losing the sight of one eye and sustaining other injuries. He was allowed to recover $3,500 ($6,500 having been asked for). *Dudley v. R. P. Hazzard Co.*, 112 Me., 453, 92 Atl., 517 (1914). An employee engaged in putting up cleats for electric wiring above a veneering machine, and seated upon joists, was thrown to the floor by the jerk when veneer caught in a belt, and had a screwdriver pierce his eye. Being twenty-three years of age, he was awarded $7,000. It was held that in his position he had assumed only the risks for the ordinary vibration of the machinery, and not for the looseness of the joists or for the accumulation of veneer near a belt. *Chicago Veneer Co. v. Jones*, 143 Ky., 21, 135 S. W., 430 (1911). For the loss of an eye and other injuries to a steel worker as the result of a beam sagging while at work on a scaffolding, $9,000 was recovered. *Welk v. Jackson Architectural Iron Works*, 98 App. D., 247, 90 N. Y. Supp., 541 (1904).

[2] Where a coal miner lost both eyes and received other injuries by being struck by a heavy object, possibly a lump of coal, when reaching out in a shaft to recover a wheel which had come off a car being lowered, $12,500 was allowed, the negligence of the employer consisting in the failure to provide a linch-pin on the car, and the question of contributory negligence being for the jury. *Jenkins v. La Salle County Carbon Coal Co.*, 182 Ill. App., 36 (1913). An employee in a coal mine was attempting to adjust the harness of a mule, caught on a projecting rock in a narrow passage with a jutting roof, of the condition of which complaint had been made, with a promise of improvement. While so engaged, he was kicked, in consequence of which he lost the sight of one eye and was otherwise injured. Damages in the sum of $6,000 were awarded. *Carney v. Marquette Third Vein Coal Co.*, 175 Ill. App., 139; affirmed, 260 Ill., 220, 103 N. E., 204 (1913). Where one eye was lost and other injuries sustained from a falling rock, no adequate props having been put up, or sign of danger indicated, $2,000 was recovered. *Kellyville Coal Co. v. Strine*, 117 Ill. App., 115; affirmed, 217 Ill., 516, 77 N. E., 375 (1905).

[3] Where, as the result of an explosion in an iron mine, due to the jarring of powder and caps by machinery and to overheating by steam, both eyes were lost and other injuries were sustained, the injured party being ignorant of the danger, and his age being twenty-four years, $10,000 was allowed. *Mather v. Rillston*, 156 U. S., 391, 15 Sup. Ct. Rep., 464, 39 L. ed., 464 (1895). Where a coal miner used a squib to fire a blast in a mine not properly ventilated, whereby a gas explosion was set, causing the destruction of both eyes, $36,000 was awarded (with a *remittitur* of all above this sum), his age being fifty years, and his previous maximum earning power having been $900 a year. *Yurkonis v. Delaware, L. & W. R. Co.*, 213 Fed., 537, 6 N. C. C. A., 210, 880 (1914). Where an employee in a limestone quarry was directed to clean or drill a hole for blasting, and in so doing was blinded in both eyes and received other injuries from an explosion of a "missed hole," or one that had previously failed to explode, it being difficult, with so much rotten rock lying about, to tell whether this had been filled, $9,000 was recovered. *Stearns v. Reidy*, 53 Ill. App., 246; affirmed, 135 Ill., 119, 25 N. E., 762 (1890). Where in digging holes for tele-

In various industrial processes in which young or inexperienced persons are engaged there is also particular risk.[1]

phone posts an explosion occurred from dynamite, which had been left unexploded, and the presence of which was not known, causing injury to the eyes and other injuries, $3,650 was allowed. *Cumberland Telephone & Telegraph Co. v. Harp*, 28 Ky. Law Rep., 909, 90 S. W., 980 (1906). Where an employee at work with a steam shovel was directed to load a hole in a rock by pouring powder into it shortly after having been blasted with dynamite, whereby a premature explosion resulted, causing the loss of sight in one eye and the impairment of that in the other, besides other injuries, $12,000 was recovered ($15,000 being regarded as excessive), the question of contributory negligence being for the jury. *Hardy v. Chicago, R. I. & P. Ry. Co.*, 149 Iowa, 41, 127 N. W., 1093 (1910). Where an employee, engaged in blasting a tunnel by means of an electric exploder, built a fire therein for the purpose of keeping warm, into which refuse was thrown, as was known to the employer, and into which a metal cap or exploder happened to get, causing an explosion and destroying one eye and inflicting other injuries, $1,000 was allowed. *Thrasher & Gunther v. Emke*, 154 Ky., 744, 159 S. W., 565 (1913). Where an employee, engaged in excavation and blasting in a mine, was directed by his foreman to return and light a loaded shot, which was believed to be unlighted, and had both eyes destroyed and sustained other injuries in the ensuing explosion, $6,000 was awarded. *Bane v. Irwin*, 172 Mo., 306, 72 S. W., 522 (1903). Where an employee was directed to inject frozen dynamite into a hole, a highly dangerous operation, as was known to the employer, and in consequence of the explosion thereof suffered the loss of one eye and other injuries, $3,000 was allowed. *Curreli v. Jackson*, 77 Conn., 115, 58 Atl., 762, 17 Am. Neg. Rep., 22 (1904). Where an employee at work on a railway roadbed was in such a position that he could not see the warning of a blast on another, and received injuries to his eye and other parts, $9,000 was allowed, though his earning capacity was in fact but little reduced. *Gillespie v. Great Northern R. Co.*, 124 Minn., 1, 144 N. W., 466 (1913). Where an employee lost the sight of one eye and had the other impaired when a pot of molten metal being dumped by him came into contact with water and exploded, no warning having been given to him that such a result was likely, $10,000 was recovered ($15,000 being regarded as excessive), as he was later able to earn from $15 to $20 a month. *Ribach v. Lake Superior Smelting Co.*, 123 Mich., 401, 82 N. W., 279, 48 L. R. A., 649, 81 Am. St. Rep., 215 (1900). Where an employee was blinded in both eyes from the explosion of giant powder of a new and very dangerous kind, it was incumbent upon the employer to give due warning. *Smith v. Oxford Iron Co.*, 42 N. J. L., 467, 36 Am. Rep., 535 (1880). An employee was ordered by his foreman to clean out a dynamite hole in a mine in which the fire on a fuse had gone out. As he failed to go far enough the operation had to be finished by the foreman, and in the ensuing explosion he was deprived of his eyesight. It was held that, inasmuch as he was guilty of contributory negligence in not having fully performed his duty, and as the foreman was in reality a fellow servant at the time, a verdict of $37,500 was excessive. *Deep Mining & Drainage Co. v. Fitzgerald*, 21 Col., 533, 43 Pac., 210, 13 Am. Neg. Cas., 615 (1895). Where an employee engaged in loading coal into cars suffered the loss of both eyes from falling into the débris from an explosion, $10,000 was allowed. *Bagaini v. Donk Bros. Coal & Coke Co.*, 199 Ill. App., 76 (1916).

[1] Risk was not assumed by a minor engaged in wrapping bottles, one of which burst and destroyed an eye, such bursting being of frequent occurrence under high pressure, and there having been a promise of safety measures on the making of complaint. *Lobasco v. Moxie Nerve Food Co.*, 127 App. D., 677, 111 N. Y. Supp., 1007 (1908). Nor by a seventeen year old girl, into whose eye, while making envelopes, spattered a mixture of gum and caustic soda, she not realizing the full danger, and having already made complaint of such tendency, after the burning of

Illustrations of the interposition of the several defenses enjoyed by the employer, whereby recovery for injury to her face and clothing. *Flaherty v. Powers*, 167 Mass., 61, 44 N. E., 1074 (1896). Nor by a seventeen-year old boy who lost the sight of an eye from the flying in of cement, while lifting an old floor on which this had recently been deposited, even though he had misstated his age. *Zimmerman v. Pryor* (Mo. App.), 190 S. W., 26 (1916). Where an eighteen-year old boy was practically blinded, besides sustaining other injuries, by an explosion while drawing gasoline from tanks, $30,000 was allowed, it having been the duty of the employer to exercise the greatest care, and to have known of the ignitable character of the gasoline. *Waters-Pierce Oil Co. v. Snell* (Tex. Civ. App.), 106 S. W., 170 (1907). Where an eighteen-year old boy was operating an underground pump in a mine, and in consequence of an explosion was struck in the eye and elsewhere by pieces of iron, $1,000 was awarded, the task being regarded as a very dangerous one. *Stearns Coal & Lumber Co. v. Tuggle*, 157 Ky., 808, 164 S. W., 74 (1914). A minor was winding steel wire on spools, and was attempting to splice two ends together. The wire having caught on a defective pulley, he was ordered by his foreman to get it out, without being warned of the danger; and while so doing he was struck in the eye when it slipped from his pliers. Damages in the sum of $1,008 were allowed. *Warnke v. A. Leschen & Sons Rope Co.*, 186 Mo. App., 30, 171 S. W., 643 (1914). For the loss of an eye and other injuries to an eighteen year old boy, employed in keeping the floor clean, on the breaking of a defective and improperly repaired belt, $6,000 was recovered. *Stearns v. Pine Woods Lumber Co.*, 122 La., 284, 47 So., 607 (1908). Where a fifteen year old boy loses the sight of an eye in consequence of being struck by a sliver from a plank in a planing mill, the employer may be held liable, he being aware of the danger and giving no warning, and the boy being ignorant of the situation. *Donley v. Scanlon*, 116 Ind., 8, 15 N. E., 158 (1888). For the loss of an eye to a sixteen-year old boy in a machine shop, who was struck by a brass chip when he approached the foreman to ask for a tool, $5,000 was recovered. *Georgia, F. & A. Ry. Co. v. Lasseter*, 122 Ga., 679, 51 S. E., 15 (1905). Where an eighteen-year old boy, an apprentice and not sufficiently experienced to appreciate the dangers in a defective tool, sustained the loss of one eye and the impairment of the other while using a flagging hammer and a steel pin on an engine boiler, $14,400 was allowed. *Van Hul v. Great Northern Ry. Co.*, 90 Minn., 329, 96 N. W., 789, 15 Am. Neg. Rep., 51 (1903). Where an eighteen year old boy had one eye destroyed from a broken driver of a shoe tacking machine, which was without the guard required by law, no contributory negligence was attached to him, though he knew of the liability of such drivers to break. *Phillips v. Hamilton Brown Shoe Co.*, 178 Mo. App., 196, 165 S. W., 1183 (1914). Where an employee twenty-two years of age, known as a general "roustabout," and without experience, was placed at work with an unguarded saw, at which he was deprived of an eye by a block, due to the jarring of his table by the machinery, $2,000 was awarded. *Lemser v. St. Joseph Mfg. Co.*, 70 Mo. App., 209 (1897). Where, with no warning given of the danger, a nineteen year old boy was filling, by means of a mallet, a primer with improper powder, and in consequence of an explosion suffered impairment of sight and other injuries, $1,500 was allowed (a release made just after the accident being of no effect). *Harlow v. Western Cartridge Co.*, 170 Ill. App., 515 (1913). Where an inexperienced and unwarned employee was directed to open a pipe from a kettle of caustic soda, which, coming out in great force, caused the loss of sight in one eye and the impairment of that in the other, besides other injuries, damages in the sum of $7,048 were allowed, the rule as to the wearing of goggles being frequently disregarded, and at the time of the accident there being none at hand. *Haley v. Solvay Process Co.*, 127 App. D., 753, 112 N. Y. Supp., 25 (1908). Primary blame does not attach to a young and inexperienced assistant who is struck in the eye while cutting rivets for a metal hood, on a platform too small for

the sight is defeated, are in their turn presented. They include the principle of the assumption of risk by the employee in different forms, and in much the most numerous instances; of contributory negligence; and of fellow service.[1]

the purpose, and with a defective cold chisel, furnished on request. *Brooks v. Kansas Chemical Mfg. Co.*, 94 Kans., 86, 145 Pac., 840 (1915). Where an employee with little experience, while holding in a foundry a steel rail being cut, had the sight of one eye destroyed, $2,000 was recovered, it being regarded that he was without both warning and protection. *Vohs v. Shorthill & Co.*, 130 Iowa, 538, 107 N. W., 417 (1906). An inexperienced employee placed near a power hammer for flattening old iron pipe does not assume the risk of injury to the eye from the flying out, under heavy blows, of strong acid or lye from an old and dirty pipe which had not been examined. *Gummerson v. Kansas City Bolt & Nut Co.*, 185 Mo. App., 7, 171 S. W., 959, 8 N. C. C. A., 907 (1914). Where an employee was directed to cut a key way in a piece of steel, despite his ignorance of the work and despite his declaration of such ignorance, and without particular instructions as to the manner in which he was to do it, was injured in the eye, it was a question for the jury whether there was contributory negligence on his part. *Hauser v. American Smelting & Refining Co.*, 85 N. J. L., 685, 90 Atl., 264 (1914). Where an employee young and just beginning work as an assistant in boiler making was deprived of one eye while holding a tool "side set" in the cutting off of rivets by another, $5,000 was allowed, it being regarded that he was given work for which he was not engaged. *Chicago, C. C. & St. L. Ry. Co. v. Tehan*, 26 Ohio Cir. Ct., 457 (1904). Where a boy was kicked by a horse known to be vicious while hitching it to a wagon, as he was directed by an employee in authority, and as a result suffered the loss of sight in one eye and other injuries, $8,500 was awarded. *Wysocki v. Wisconsin Lake Ice & Coal Co.*, 121 Wis., 96, 98 N. W., 950 (1904).

[1] Assumption of Risk.—An employee lost the sight of an eye in cutting off heads of rivets of an old tank, the flying off of these being a frequent occurrence. *McDonald v. Standard Oil Co.*, 69 N. J. L., 445, 55 Atl., 289 (1902). An employee whose eye was destroyed in helping a blacksmith to cut a steel bar with a cold chisel had so worked for several years, and was deemed to be fully aware of danger. *William Graver Tank Works v. McGee*, 58 Ill. App., 250 (1895). A blacksmith injured in the eye while chipping off rivet heads with a defective chisel should, if he believed it unsafe, have repaired it or used a safe one. *Modlagl v. Kaysing Iron & Foundry Co.*, 248 Mo., 587, 154 S. W., 752 (1913). An employer is not required to give especial warning to a locomotive fireman whose sight in one eye is destroyed by the bursting of the feed glass of a lubricator, such not being regarded as particularly dangerous, and two-thirds of them being known to be unscreened. *St. Louis, I. M. & S. Ry. Co. v. Wells*, 93 Ark., 153, 124 S. W., 524 (1910). A locomotive fireman who lost the sight of one eye from the bursting of a glass water gauge enclosed in a copper tube with three slits, knew that one with a wire shield was better, and made no complaint. *Missouri & N. A. R. Co. v. Edwards*, 106 Ark., 574, 154 S. W., 209, 4 N. C. C. A., 330 (1913). An employee whose eye is destroyed by a "snap-hammer" is supposed to be able to judge of the fitness of small tools. *Wachsmuth v. Shaw Electric Crane Co.*, 118 Mich., 275, 76 N. W., 497 (1898). An employee, whose eye was destroyed while cutting a rail, had used a chisel which he saw was battered. *Fordyce v. Stafford*, 57 Ark., 503, 22 S. W., 161 (1893). An employee, whose sight was destroyed in one eye, should have known better than to use a spike maul, instead of a sledge hammer, upon a chisel to cut a rail. *Houston & T. C. Ry. Co. v. Conrad*, 62 Tex., 627 (1884). An employee injured in the eye by a fragment from the head of a cleaver when struck by a sledge hammer should have selected a proper tool, or have removed the burrs from it (suit under employers' liability law). *Woodward Iron Co. v. Marbut*,

Amount of Damages Awarded

The amount of damages awarded by courts of law for the loss or impairment of sight, in one or both eyes, is regu-

183 Ala., 310, 62 So., 804, 6 N. C. C. A., 1 (1913). An employee injured in the eye had applied too heavy a hammer upon a cold chisel to cut off an iron pipe. *L'Houx v. Union Construction Co.*, 107 Me., 101, 77 Atl., 636, 30 L. R. A. (n. s.), 800 (1910). Sight of an eye was destroyed by a tool obviously defective for cutting steel, together with negligence of a fellow servant. *Hefferen v. Northern Pacific R. Co.*, 45 Minn., 471, 48 N. W., 1, 526, 16 Am. Neg. Cas., 154 (1891). An employee, finding that a new wheel had been substituted on a circular saw for one broken, complained that this would not answer, but was told that a proper one would soon be installed. Shortly after his eye was put out by a block thrown off. A jury found for him, but a new trial was ordered, it being held that he had assumed the risk. *United States Rolling Stock Co. v. Chadwick*, 35 Ill. App., 474 (1890). A blacksmith who while holding a heavy iron bar against a boiler as holes are being made in it by a punching machine is injured in the eye from a sledge hammer in the hands of another employee, is responsible if a battered tool is chosen when other good ones are available, and which should have been seen. *Rawley v. Colliau*, 90 Mich., 31, 51 N. W., 350 (1892). An employee who loses the sight of an eye from a fragment from a drift pin, which was frayed and battered, there being plenty of good pins standing by, should have known of the danger. *Barrett v. Chicago Bridge & Iron Co.*, 181 Ill. App., 204 (1913). A boiler-maker, whose eye was destroyed from the flying up of the head of a rivet being cut off from a sand box, was held to have been carrying on his work carelessly in the use of a hand chisel and hammer, and to have adopted an unsafe method. *De Coux v. Kentwood & E. Ry. Co.*, 129 La., 161, 55 So., 749 (1911). An employee on a railroad whose eye was struck by a fragment of a spike while removing one and inserting another, was regarded as responsible for the selection. *Alabama Great Southern Ry. Co. v. Hudson*, 64 Ala., 143, 51 So., 399 (1909). A carpenter used to all sorts of nails, whose eye was injured by the flying up of one while working in a poorly lighted place, had himself to blame. *Anderson* v. *Forrester-Nace Box Co.*, 103 Mo. App., 382, 77 S. W., 486 (1903). A section hand who suffered the loss of an eye and other injuries by jumping from a hand car to avoid a collision, had taken it out on a foggy day. *International & G. N. Ry. Co. v. Hester*, 64 Tex., 401 (1885). An employee struck in the eye, while at work on a railway, with a hammer and chisel had undertaken work different from that for which he had been engaged. *Illinois Central R. Co. v. Brown*, 107 Ill. App., 512 (1903). Where an employee was making heads for rivets, inserted in a boiler, by holding a "set" or form over them while, in a heated condition, they were struck by another employee with a hammer, and had one eye destroyed by a piece from the "set" flying up, the employer was regarded as having provided reasonably safe tools. *Chicago & A. R. Co. v. Mahoney*, 4 Ill. App., 262 (1879). An employer is not negligent if he chooses what seem the best appliances, though injury to the eye results therefrom. *El Paso & S. W. R. Co. v. Foth*, 101 Tex., 133, 105 S. W., 322 (1907). See also 100 S. W., 101. Where a miner in assisting in breaking boulders too large to pass through a screen used a badly worn sledge hammer, and in a shower of rock which flew up had one eye put out, it was held that employers often furnished round faced hammers, which were considered as reasonably safe. *Sager v. Samson Mining Co.*, 178 Mo. App., 502, 162 S. W., 762 (1914). Where the sight of an eye was destroyed when a splinter was thrown off from a saw to which wood was being fed, no guard was considered as having been necessary, the apparatus already having been "reasonably" safe. *Ariz. Lumber & Timber Co. v. Mooney*, 4 Ariz., 366, 42 Pac., 952 (1895). Where a general helper was directed to use an air gun to chip off a part of a steel

lated by the general rules for the measure of damages for injuries to the person. Several factors are taken into

boiler head, and was struck in the eye by a flying steel shaving, the appliance was regarded as not a customary one, though in some establishments such were employed at the workers' own expense. *Bilicki v. Staten Island Shipbuilding Co.*, 147 App. D., 687, 132 N. Y. Supp., 564 (1911). Where a structural iron worker had an eye destroyed from the striking of a chisel by a maul or sledge hammer, the defects were regarded as not discoverable by inspection. *O'Hara v. Brown Hoisting Machine Co.*, 96 C. C. A., 350, 171 Fed., 394 (1909). Where an experienced boiler-maker was struck in the eye while operating a metal punching machine, it was regarded as not being proved where the piece of steel came from, or that the machine was defective. *Renehan v. Mohr*, 171 Ill. App., 386 (1912). Where a locomotive fireman sustained injuries to his eyes and to other parts in an explosion of steam and tallow from an oil cup, he was required to show that the appliances were defective, and that he was himself blameless. *East Tennessee, V. & G. R. Co. v. Stewart*, 81 Tenn., 432 (1884). A railway employee injured in the eye and elsewhere must establish the negligence of the employer in furnishing defective tools. *Georgia Railroad & Banking Co. v. Nelms*, 83 Ga., 70, 9 S. E., 1049, 20 Am. St. Rep., 308, 14 Am. Neg. Cas., 181 (1889). Where an employee burning rubbish in the stove of a railway station received an injury to the eye from the sudden issuing forth of a flame caused by a torpedo which had been mixed in, no evidence was found to show how the railway was responsible. *Galveston & S. A. Ry. Co. v. Chojnacky* (Tex. Civ. App.), 180 S. W., 141 (1915). Where a carpenter boring holes in a ceiling in a very dark room, and looking up, was blinded in one eye by the falling into it of rusty iron or rust, it was held that, though better light had been promised by the foreman, the negligence of the employer was not the proximate cause, the accident being one such as not reasonably to be foreseen. *Armour & Co. v. Harcrow*, 217 Fed., 224, 7 N. C. C. A., 325 (1914). Where in the cutting away of an old concrete base by means of a file and hammer an eye was destroyed by the flying up of a piece of steel or concrete, it being charged that the file was not reasonably safe, it failed to be shown that this cause, and no other, was responsible. *Rogers v. Hammond Packing Co.*, 167 Mo. App., 49, 150 S. W., 556 (1912). The destruction of an eye through the flying up of a dowel pointer is regarded as a pure accident, and not the result of a defect in the machine whence it came, although it was alleged that a nut therein had become loose. *Portman v. Cappon*, 145 Wis., 126, 128 N. W., 866 (1911). A lineman of six years' experience was engaged in sawing iron lugs from the insulators supporting a trolley line, operating from a tower which was sometimes above and sometimes below the lugs, and which he continued to use when found too low; and as the result of dust thrown off in the process, lost the sight of one eye. The flying of the dust was regarded as a common happening, and the danger of a kind not to be anticipated. *Nordstrom v. Spokane & I. E. R. Co.*, 55 Wash., 521, 104 Pac., 809, 25 L. R. A. (n. s.), 364 (1909). The loss of an eye as the result of the emptying of a bag of cement is purely an accident. *Dameron v. Commonwealth Steel Co.*, 186 Ill. App., 556 (1914). Loss of sight in an eye as the result of the striking with a pick a crosstie in which had lodged cinders, earth, etc., covered with ice, is from a natural occurrence. *Jones v. Southern Ry. in Ky.*, 175 Ky., 455, 194 S. W., 558 (1917). Where a boiler-maker in work on some old flues was struck in the eye when a piece broke off, the accident was found to be one that had never happened before, the danger only being evident after its occurrence. *Great Northern Ry. Co. v. Johnson*, 125 C. C. A., 183, 207 Fed., 521 (1913). A section hand tamping ballast under ties was struck in the eye by a piece of steel or flinty quartz, after being told to hurry before the coming of a train. *Chicago, R. I. & P. R. Co. v. Duran*, 38 Okla., 710, 134 Pac., 876 (1913). An employee moving a cylinder over rollers by means of a winch, in the installation of a machine pump, was ordered by his foreman to remove the pawl which kept it from

consideration, the chief of which are: the extent of present and of future disability; past earning power of the injured

reversing and to take the handle. On the springing back of this he was caused to lose an eye. It was held that the foreman was not acting in the scope of his employment. *Borckman v. Terry Construction Co.*, 157 App. D., 661, 142 N. Y. Supp., 645 (1913). In respect to an injury from the use of a cold chisel, it was proved that this was provided by the foreman, against the orders of the employer, it alone supplying tools. *Boland v. Great Northern Ry. Co.*, 120 C. C. A., 624, 202 Fed., 485 (1913). Where an employee was struck in the eye from hitting the end of a reamer with a handle, as directed, it was held that this was but a detail of the manner of doing the work, and was not in the scope of the authority of the superintendent. *Tumminello v. Fore River Shipbuilding Co.*, 206 Mass., 311, 92 N. E., 449 (1910). Where an eye was struck by the breaking of a chisel in the cutting of rivets on a boiler, it was held that the tool, provided by the person in immediate charge of the work, was one the defects of which could not be discovered by ordinary care, and that it was for the jury to determine whether there had been negligence in the furnishing of proper tools. *Mercer v. Atlantic Coast Line R. Co.*, 154 N. C., 399, 70 S. E., 742, Ann. Cas., 1912A, 1022, 2 N. C. C. A., 118 (1911). A railroad company contracted with a physician to maintain a hospital for its employees, reserving 50 cents from the monthly wages of each. An employee who was struck in the eye by a piece of iron claimed to have lost the entire sight of it from the negligent treatment afforded. It was held that, inasmuch as the company, holding the funds of its employees in trust, not serving its own interests, and the physician not being its agent, was really engaged in a charitable endeavor, it was not liable. *Texas Central R. Co. v. Zumwalt*, 103 Tex., 603, 132 S. W., 113, 30 L. R. A. (n. s.), 1206 (1910); reversing 56 Tex. Civ. App., 567, 121 S. W., 1133, 132 S. W., 112.

Contributory Negligence.—An employee struck in the eye by a splinter from an adjoining sticker machine had been employed for several years without making complaint, and had neglected on this occasion to wear glasses. *Gorrey v. W. F. Hurd Co.*, 177 Mich., 116, 143 N. W., 6 (1913). It is a question for the jury, in a suit under an employers' liability law, whether an employee whose eye has been injured while at work with a punch and die, has exercised ordinary care. *Bisch v. Ralston Steel Car Co.*, 16 Ohio N. P. (n. s.), 33 (1914). A guard for a shuttle which caused injury to the eye was alleged to be unsafe, but had been selected as a safe one. *Pierce v. Atlanta Cotton Mills*, 79 Ga., 782, 4 S. E., 381 (1887). Where a locomotive fireman was struck in the eye while breaking up coal with a pick or hammer, which had become worn and rounded, it was held that, though the employer had been negligent, it was a question for the jury whether there had not been also contributory negligence on the part of the former in his failure to examine the tool before using. *Lehman v. Chicago, St. P. & M. Ry. Co.*, 140 Wis., 497, 122 N. W., 1059 (1909). A foreman of a blasting gang, on the failure of several blasts to explode, poured in a fresh charge of dynamite from a can in a hole in which there were sparks of fire not extinguished; and in the premature explosion following lost the sight of both eyes, besides sustaining other injuries. It was held that, though a cup had been promised for his use, he was to blame for attempting such dangerous procedure. *Hilman Land & Iron Co. v. Littlejohn*, 33 Ky. Law Rep., 983, 107 S. W., 736, 19 Am. Neg. Rep., 251 (1906). Where a coal miner, inexperienced, yet of mature age, and presumably of average intelligence, suffered injury in the eye and elsewhere as the result of his taking from a drill hole a stick of dynamite with an ignited fuse attached, it was not required of the employer to give warning. *De Francesco v. Piney Mining Co.*, 76 W. Va., 756, 86 S. E., 777, 10 N. C. C. A., 1015 (1915). Where loss of sight in one eye and other injuries were sustained as the result of a dynamite explosion in a mine, contributory negligence was charged against the sufferer, though damages might be allowed for the aggravation of the wounds from the want of

party; future earning power, if any; present age, and general physical condition; and the number and closeness of relation of dependent persons. The foremost one is probably the lost earning capacity, though sometimes award is made without regard to this, but merely on principle. Verdicts are usually regarded simply as compensation for the deprivation incurred, and as nothing more. There is often evident a purpose of allowing a certain sum, the interest on which may be looked upon as an annuity.[1]

From the cases involving suits for injuries to the eye, it appears that courts, and especially juries, are generally inclined to grant the full award which the law and the circumstances permit, this being all the more likely on the complete loss of vision, with its consequences. The size as a rule depends upon the extent or degree of injury to the sight, there sometimes being complications, with injury to other parts. The value attached to the sense of vision may be indicated from the comment of a Court in the consideration of a verdict of $20,000 for the loss of both eyes in the injured person: "It is difficult to conceive of an injury more serious than this. He is not only deprived of his earning power, but of that sense which all will agree

proper sanitary appliances at hand. *Smith v. Woolf*, 149 Ala., 457, 42 So., 824, 9 L. R. A. (n. s.), 338 (1908). See also 160 Ala., 644, 49 So., 395.

Fellow Service.—An employee on a railroad line had an eye put out from the throwing out of unsuitable firewood from a passing engine. *Whaalan v. Mad River & L. E. R. Co.*, 8 Ohio, 249 (1858). A section foreman had the sight of one eye destroyed by a piece of coal, to which an order was attached, thrown in an improper manner from a passing engine. *Card v. Eddy*, 129 Mo., 510, 28 S. W., 979, 36 L. R. A., 806 (1895). An employee on a railroad had the sight of one eye destroyed from the use of a defective spike-maul by a fellow servant. *Little Rock & Ft. Smith R. Co. v. Duffey*, 35 Ark., 602, 13 Am. Neg. Cas., 256 (1880). An employee in an iron foundry, carrying, in conjunction with another employee, molten metal in a ladle by means of a rod through the handle, had one eye destroyed as the result of some of it falling through the bottom and splashing up, due to the conduct of his companion. *Central Foundry Co. v. Bailey*, 162 Ala., 623, 50 So., 346 (1909). Where an employee, wiping a switch engine over an ash pit, sustained the loss of an eye and other injuries when some one on it opened the throttle and blew out steam, it was a question for the jury whether the latter had lawful business where he was. *Louisville & N. R. Co. v. Richardson*, 100 Ala., 232, 14 So., 209 (1893). See also *Loveless v. Louisville & N. R. Co.* (Ala.), 75 So., 7 (1917) (eye struck by piece of metal in repairing car).

[1] See J. G. Sutherland, "Treatise on the Law of Damages," 1916, §§ 451, 452, 1245, 1256.

upon contributes more to life's enjoyment than any other." [1] In another case it was declared with respect to a man who had been blinded in both eyes that he "goes sightless to his grave . . . and gets a very poor equivalent for the constant deprivation he endures." [2] The means and resources of the defendant naturally have a place in the determination of the sum to be allowed, a practice which, as we might expect, has the most frequent illustrations in suits against corporations. In some sections of the country, furthermore, higher awards generally prevail than in others, there being in the former a broader and more enlightened view of the matter. Finally, apart from the liberalizing influences, already noted, of the recently enacted employers' liability laws, there has been a common tendency, with the course of time, to increase the awards made.

While the compensation actually afforded for injuries to the eye varies with individual cases, there are four classes which may be distinguished, depending upon the extent of the damage inflicted: (1) injuries to one eye such as to cause partial or total blindness therein; (2) injuries to one eye, together with injuries to other parts of the body; (3) total or practically total loss of sight in both eyes, or such loss in one eye and serious impairment of that in the other; and (4) injuries to both eyes, together with injuries to other parts of the body. For injury to one eye alone, causing its destruction or the considerable impairment of its sight, awards range from $300 to $12,000, though both these extremes are exceptional. The usual limits may be said to be from $750 or $1,000 to $6,000 or $7,500, with an average perhaps of $2,500 or $3,000. Where the ocular injury is accompanied with other injuries, the amount is increased proportionately to the extent of the additional suffering. For the loss or serious impairment of sight in both eyes or the loss of one and the impairment of the second, without injury to other parts, awards range from $1,200 to $36,000

[1] *Marsh v. Usk Hardware Co.*, 73 Wash., 543, 132 Pac., 241 (1913).
[2] *Stearns v. Reidy*, 33 Ill. App., 246; affirmed, 135 Ill., 110, 25 N. E., 762 (1890).

(with an occasional lower limit of $500 for moderate impairment), the usual bounds being from $3,000 to $20,000, with $7,500 or $10,000 as an average. For further injuries the amount is duly enlarged.[1]

In the damages thus found to be awarded, it appears that there has been only a partial realization of the fundamental difference between injuries to one eye, whether effecting its complete destruction or not, and injuries to both eyes, the real detriment involved in the latter case being far greater than that involved in the former. Yet, as it is, it is seen that, with interest at five per cent, the "annuity" returned for the loss of one eye, is, on the average, something like $150, and for the loss of both, $400 or more. Measured in terms of the allowances provided for by the pension laws of some States, the indemnities secured through legal action for injury to the sight would offer more than an adequate substitute for such grants.

General Results of Suits for Damages

In the foregoing review are shown in what circumstances indemnities may be secured for injuries to the eye by actions at law, and what sums may be expected therefrom. What proportions the suits bear to the total number of such injuries received, we can do little more than conjecture. So far as industrial employees especially are concerned, it is probable that, all told, the awards of damages obtained in suits represent only a very limited portion of the accidents causing the loss of sight in one or both eyes—

[1] For the loss of sight and the sustaining of other injuries, $7,000 was allowed, the previous earning capacity of the injured party having been $15 a week. *Weeks v. Fletcher* (R. I.), 71 Atl., 881 (1909). An instruction to a jury that it might consider the possible loss of the second eye in determining a verdict, was regarded as improper, the complaining party refusing to have the injured eye removed. *Freeman v. Wilson* (Tex. Civ. App.), 149 S. W., 413 (1912). For the loss of one eye and the impairment of the other, the sum of $175 has, as we have seen, been held to be "grossly inadequate." For the loss of both eyes, $37,500 has been considered to be excessive, since damages should be assessed only "in the exercise of reasonable and sound judgment." *Deep Mining & Drainage Co. v. Fitzgerald*, 21 Col., 533, 43 Pac., 210, 13 Am. Neg. Cas., 615 (1895).

and it is upon them because of their particular liability to such injury, and because of their general pecuniary condition as well, that the situation bears most heavily.

A number of cases of accidents, it is to be remembered, do not reach courts of record; while not a few claims are settled or compromised out of court, there at times being a stipulation to such effect entered into by the parties. Acceptance of benefit features from associations of employees with assistance from employers, as we are to find later, usually has the force of a bar to the prosecution of suits; while some employers insure themselves against suits by employees. In many instances action is not attempted, no doubt by very reason of the small chance, under the established rules of law, of a favorable outcome. Such efforts are, furthermore, in very considerable degree discouraged by the uncertainty, delay, and expense attendant upon the bringing of suits.[1]

It is in great measure due to the foregoing considerations that there is now being effected, so far as concerns injuries to workers in the course of their work, a different form of indemnity, namely, by means of workingmen's compensation laws, soon to be examined. With thus the removal in large part of the occasion for suits by employees against employers for such injuries, these suits will become, and in fact are now becoming, of rapidly lessening necessity.

[1] The amount of damages obtained from settlements in the case of injury to both eyes, as found for 57.0 per cent of the railroad employees of the United States from 1908 to 1910, averaged $5,131 for 5 cases; and the amount from settlements for injuries to one eye averaged $551 for 334 cases, and the amount from judgments, $2,554 for 7 cases, the amount to a large extent depending on previous earnings, Report of Employers' Liability and Workingmen's Compensation Commission. Sen. Doc., 62nd Cong., 2nd Sess., 1912, i., pp. 136–140. From one-third to one-sixth of the amount of awards is said to go to attorneys, the proportion usually being highest in case of the full prosecution of suits in court, next highest in case of settlements out of court, and lowest in case of settlements without suits.

CHAPTER XL

INDEMNITIES PAID FOR THE LOSS OF SIGHT: THROUGH INSURANCE POLICIES

Principles of Insurance as Applied to Benefits for Injuries to the Eye

The next form of indemnity to be considered in connection with the loss of sight is that offered through insurance policies. According to the principle underlying all forms of insurance, contributions of a number of persons are made into a common fund, from which, on the occurrence of a particular loss or misfortune to one, there is afforded relief, the burden thus being generally distributed. The person entitled to benefit is, in other words, required to subscribe a sum, small in comparison with his possible gain, in the form of a premium, which assures his obtaining special assistance on a certain contingency. In the matter of injuries to the eye, there is concerned the branch of insurance known as accident insurance, and perhaps to an extent, also health insurance, the benefit accruing when there befalls general disability or incapacitation, or a specified casualty.

Indemnity by means of insurance for injury to the sight represents a very great advance over that secured through legal process. In one are avoided the expense, uncertainty, and delay incident to the other. Indemnity through insurance is without cost save as to previous contributions, and is prompt, definite, and assured. The beneficiary may know exactly what sum is to be expected, and under what conditions it is to be had. The method becomes, therefore, an even more satisfactory substitute for the giving of pensions. It turns out in fact to be the

most desirable, if not the one altogether desirable, form of relief to persons deprived of the sense of sight. The insurance principle, indeed, contains possibilities hardly at present fully reckoned, and promises an extension as a social measure only the beginning of which we are probably now in a position to observe. As insurance is broadened and made more comprehensive in its bearings, indemnities will become more and more common, and will finally, we may trust, have practically exclusive possession of the field of material relief for the blind.

Unfortunately, as we have previously hinted, the chief, if not the sole, impediment to the proposal is that its application lies mainly in the future. For this reason we must wait for a greater or less length of time till it can in reality be widely considered as a competitor to the pension plan. For the blind now found among us and for whom no provision was made at the time of the coming on of their affliction, it may not be availed of.

Yet, though the plan of indemnification by means of insurance policies may in some degree be regarded as but in embryonic shape, so far as it may hold benefit on a comprehensive scale for the blind, it is not to be understood that this plan is a novel one, or is one just on the eve of possible inauguration. It has, as a matter of fact, been in operation in the United States over a considerable period of time. In it indemnity for the loss of one or both eyes has been included, this beginning with the introduction of disability benefits. So far, however, as the population in general is concerned, the measure has had only limited application.

Thus far private accident insurance has been effected through several different channels. In all of them benefit in a certain definite sum of money is accorded to the insured on the occurrence of total disability, in which may be embraced blindness or the loss of both eyes, either impliedly or in express terms, and perhaps also on the occurrence of partial disability, in which may be embraced the loss of

one eye or the impairment of vision to an extent not amounting to actual blindness. The pioneer form is through organizations formed expressly for the purpose, and conducted on a purely commercial basis. The second form is through the insurance features of fraternal or mutual orders. Next is that through similar activities of labor unions. The last is that through associations of employees, to a greater or less extent under the auspices and with the assistance of employers. In addition may be mentioned the measures of indemnification of a public character, which may include to a certain extent insurance provisions. These several forms are, so far as they have a bearing upon the loss of sight, now to receive consideration, the private ones in the present chapter, and the public in that following.

Insurance in Regular Accident Companies

In regular casualty and accident insurance companies, stock or mutual, a person, by the advancement at fixed intervals of a designated sum called the premium, takes out a policy, sometimes for a few months, but generally in force for one year and renewable at the expiration thereof, the amount of which the insurer obligates itself to pay over on satisfactory proof of the occurrence of a disabling accident. The matter is governed by the general rules of accident insurance, with more or less of legal regulations, which have increased in the course of the years. As a usual thing, the loss or serious impairment of sight in both eyes is included in total disability, and that in one eye in partial disability; but in many instances the policies provide a special indemnity for loss of sight in one or both eyes.[1] When "total and permanent" loss of sight is provided for, recovery is generally possible on the

[1] See George Richards, "Treatise on the Law of Insurance," 1909, p. 551; H. B. Fuller, "Law of Accident and Employers' Liability Insurance," 1913, pp. 34, 43, 356; F. H. Bacon, "Treatise on the Law of Life and Accident Insurance," ed. 1917, p. 2, §§ 508, 543; Am. & Eng. Enc. of Law, ed. 1896, i., p. 302; *Corpus Juris*, 1914 i., p. 468.

loss of one eye; but if the reference is to both eyes, there may be none for the loss of a single eye.[1] In case sight in one eye is already gone, the loss of that in the second is sometimes taken as full blindness.[2] According to the "standard" policy now prevailing, the disability must arise from "external, violent, and accidental" means, thus precluding damage from disease.[3] In some of the larger companies, however, there are health policies which recognize blindness in both eyes caused by disease as a permanent disability, and provide payment therefor, which may be a sum somewhat smaller than that allowed in the case of accidents.[4]

The amount of compensation allowed for blindness in both eyes, especially if directly mentioned, is usually in the standard companies from $5,000 or $7,500 to $15,000, and for blindness in one eye one-third or one-half as much. It may be paid in a lump sum; or a certain proportionate sum

[1] Where a policy provided for the payment of $1,500 for total permanent disability, including the loss of sight in "both eyes," recovery of one-half thereof for the loss of one eye was not allowed. *Phillipy v. Homesteaders*, 140 Iowa, 562, 118 N. W., 880 (1908).

[2] A person with but one eye took out a policy for $1,000, in which the permanent loss of both eyes was specified, from an agent who knew of his condition; and subsequently lost the sight of the remaining eye. It was held that he was entitled to the recovery of the full sum, inasmuch as no fraud had been practiced, and it had been his expectation to be so insured, the agent thus binding the principal, despite the claim of the latter that the agent had no power to alter the terms of the contract. *Humphreys v. National Benefit Association*, 139 Pa., 264, 20 Atl., 1047, 11 L. R. A., 564 (1891). A person who, in unloading rails, had, from the flying up of a piece of iron or other hard substance, the sight of one eye destroyed, and also that of the other from ensuing inflammation, was held entitled to the amount of his policy, namely, $1,500, the result being regarded as due to external, violent, and accidental means. *Aetna Life Insurance Co. v. Griffin* (Tex. Civ. App.), 123 S. W., 432 (1909). A policy of $1,000 is payable on the loss of sight in one eye from the entering into it of sand, dust, or other matter. *International Travelers Assn. v. Rogers* (Tex. Civ. App.), 163 S. W., 421 (1914).

[3] Where a person who, already suffering from cataract, had a policy providing for $2,500 on the "irrecoverable and entire loss of one eye," fell from a train, and had the sight of one eye destroyed, the injury was held not to have come independently. *Penn v. Standard Life Insurance Co.*, 158 N. C., 29, 73 S. E., 99; 160 N. C., 390, 76 S. E., 262 (1912).

[4] In an insurance policy it was provided that for total or partial disability caused by septic matter introduced into the system through wounds suffered in professional occupations there would be paid a weekly allowance of $25, together with the principal sum of $5,000, besides a certain accumulated sum. A physician was accordingly allowed to recover $7,500, who lost the sight of both eyes through syphilitic blood poisoning occasioned in an operation in an obstetrical case. *Maryland Casualty Co. v. Ohle*, 120 Md., 371, 87 Atl., 763 (1908).

may be allowed for one or more years, or during the period of disability, which with blindness means for life.

The premium charged for accident insurance by private companies is in general from $3 to $20 per $1,000 of insurance. This premium depends almost entirely upon the kind of occupation in which the insured is engaged, or, in other words, upon the degree of exposure to injuries therein, the gradations covering a considerable scale.[1] The lowest rates are for persons in professional or mercantile vocations, the next for those in trades or in the superintendence of industries, and the highest for those employed in industry.[2]

It may be added here that insurance against blindness is not now confined to the regular accident companies. A practice of recent development among old line life insurance companies, and at present becoming of increasing extent, is the allowing of benefits on ordinary policies for disabilities when total and permanent. In this arrangement as a rule it is provided that, on the occurrence of such disability, which the loss of sight is often stipulated to constitute, there be, without impairment of the amounts to be paid at death or on the maturity of the policy, and with

[1] In the simplest form, the rate per $1,000 of insurance is $5 for "select" cases, $6 for "preferred," $7.50 for "ordinary," $10 for "medium," $12.50 for "special," $15 for "hazardous," and $20 for "extra-hazardous." In certain standard policies the rate per $10,000 is $25 for "select and preferred," $35 for "extra preferred," and $42.50 for "ordinary." In others the rate per $7,500 is $62.50 for "select and preferred," $72.50 for "extra preferred," and $80.00 for "ordinary" (with slightly higher amounts for persons between fifty-one and fifty-five years of age), with an allowance of $2,500 for loss of sight from disease. For temporary disability a weekly indemnity is granted. The principal sum may usually be paid in installments if desired. Medical attention is also included to a large extent. If the injury occurs in transportation or from a fire in a building double indemnity is generally allowed. "Traveler's insurance" is usually at the rate of 25 cents a day, with a weekly indemnity for total disability of $12.50 for not more than one year, and for partial disability of $6.25 for not more than six months.

[2] The last named class are often compelled to pay very high premiums for their insurance, especially if in the exercise of what are regarded as dangerous callings, in respect to certain of which they are not accepted at all. In some cases insurance may be purchased by workingmen at amounts ranging from $1 to $2.25 a month, with monthly payments of from $15 to $25, or in exceptional instances of more, for partial disability; and of a sum equivalent to death benefits for total disability, or for the loss of both eyes, which may be from $500 to $1,000—the different rates and benefits turning upon the nature of the occupation concerned.

the waiving of all further premiums, allowed a certain sum for a period of ten years, which for persons under sixty years of age is at a rate of not exceeding $10 a month for each $1,000 of insurance carried.[1]

Considered as "annuities," the sums received from insurance companies for the loss of sight in both eyes do not, except among the classes held most desirable for insurance, reach the level attained by indemnities secured through legal action. It appears also that persons employed in industries in which injuries to the eye are especially likely to occur, are afforded, so far as commercial insurance is concerned, but little protection. The total number of persons receiving indemnities from accident or casualty, or from life insurance, companies each year by reason of loss of sight in both eyes, we do not know; but it is probably small. A considerable number of claims, however, are paid for the loss of sight in one eye.

Insurance through Fraternal and Similar Orders

The next form of insurance to be examined is that through mutual associations, in which assistance in the form of benefits is allowed to members on the occurrence of certain eventualities, among which is generally disability, including blindness. These societies are largely fraternal orders, the issuing of such insurance being often one of their chief features, though certain of the most considerable and best known ones are without it. This form of benefit is found in particular among immigrant peoples, frequently in connection with a religious body. There are also a number of orders of local character, as well as organizations which are little more than social clubs, having similar relief features. Benefit payments in all such societies come either from regular contributions or from assessments upon the members. Most of them are subject to certain legal regulation.

[1] In some cases, to secure the disability benefit, an extra sum, as $1, is to be added to the regular premium. For persons over sixty, benefits are also sometimes allowed, though not so great.

So far as regular provision is made in these organizations, insurance is usually offered at the rate of $15 or $18 per $1,000, except with respect to industrial employees, for whom rates are somewhat higher.[1] The amount nominally allowed for disability seldom exceeds $6 or $8 a week, sometimes much less; and may continue only for a limited period, and not through life, though in a few cases a pension of from $130 to $300 is purported to be given during the continuance of disability. Sometimes the same benefits are granted for total disability as for death, or a lump sum the maximum of which is $1,000, with perhaps a proportionate part, as one-fourth, for partial disability in the loss of one eye.[2]

The benefits afforded in this form of insurance do not, except perhaps with respect to wage-earners, appear to be quite so great as in that of the commercial companies, though it is to be remembered that the cost in the former is in general correspondingly less. The total number of policies in the organizations referred to is over six million, but we do not have information as to the number receiving assistance because of blindness. We may doubt whether any but a very small proportion receive substantial benefit.[3]

[1] The operating expenses of both fraternal and labor orders are often difficult to determine; and the limits of their liability are not always exact.

[2] Where the insured party became totally blind as the result of an accident to one eye and sympathetic infection of the other, he was held to come within the meaning of the clause that a "member who shall find himself incapable of working by reason of sickness or accident shall receive the sum of $5 per week," it being regarded as immaterial whether the original cause was sickness or accident, and the claim of the defendant that benefits should continue only during a state of sickness immediately due to an accident being rejected. *Mogé v. Société de Bienfaisance St. Jean Baptiste,* 167 Mass., 298, 45 N. E., 749, 35 L. R. A., 736 (1897). An insured party having a policy in a fraternal association with benefit features, by which $1,000 was allowed for death, and one-fourth thereof for the loss of one eye by accident, was held to be entitled to recover for such loss as from accident, and not from disease, when it was due to the rubbing of the eye, in which gonorrhea later appeared, because of the splashing in of suds in the washing of clothes. *Sullivan v. Modern Brotherhood of America,* 167 Mich., 524, 133 N. W., 486, Ann. Cas., 1913A, 1116 (1911).

[3] Out of 1,973 blind persons investigated in Pennsylvania, only 14, or 0.7 per cent, were found to have received benefits from fraternal organizations or associations of employees. Report of Pennsylvania Institution, 1909, p. 22.

Insurance through Benefit Features in Labor Unions

Akin to the insurance schemes of mutual associations, but often on a really larger scale, are the benefit or insurance features of labor unions. Among a number of such unions, particularly the largest and strongest, either a direct allowance is made to members on disability, or an insurance policy is provided through their machinery. For total disability, as constituting which blindness is in many instances specifically mentioned, the amount granted, sometimes the same as that for death, takes a broad range, with the extremes $25 and $4,500, but with the usual limitations $300 or $400 and $1,000, the sum in a particular case depending for the most part upon the size and strength of the union, as well as upon the length of membership and the kind of insurance maintained in different ones. Sometimes periodical disability allowances are made for a time, these averaging under $5 a week for complete disability, and one-third as much for partial. As a rule membership for a minimum length of time is required before the benefit features become applicable. Annual dues in the unions, it may be stated, are usually from $1 to $16, while the cost of straight insurance is as a general thing from $18 to $35 per $1,000.[1]

[1] The amount allowed by the Brotherhood of Locomotive Engineers for total blindness has been $4,500, with $1,500 for partial; by the Order of Railway Conductors, from $1,000 to $3,000, depending on the amount of insurance carried; by the Brotherhood of Locomotive Firemen and Enginemen, from $500 to $3,000, depending on the amount; by the Railway Mail Association, $3,000 for the loss of both eyes, with $1,000 for one; by the Brotherhood of Railroad Trainmen, from $500 to $1,350, depending on the form of insurance; by the Switchmen's Union, from $300 to $1,200, depending on the form; by the International Brotherhood of Maintenance of Way Employees, from $500 to $1,000, depending on the grade; by the Brotherhood of Railway Carmen, from $250 to $1,000; by the Amalgamated Society of Engineers, from $300 to $600 (for the loss or impairment of sight), depending on the grade; by the Amalgamated Association of Street and Electric Railway Employees, $100; by the Cigar Makers International Union, from $150 to $500, depending on length of membership; by the Amalgamated Society of Carpenters and Joiners, from $175 to $700, depending on the grade; by the United Brotherhood of Carpenters and Joiners, from $100 to $400, depending on length of membership; by the Amalgamated Glass Workers Union, from $50 to $100, depending on the grade; by the Iron Molders Union, from $100 to $200, depending on length of membership; by the Brotherhood of Painters, Decorators, and Paper Hangers, from $25 to $200, de-

There are also a certain number of locals in various unions which allow special benefits for disability, commonly from $40 to $100. There are many unions, moreover, having sickness benefits, which in certain instances may perhaps be made to apply to accidents to the sight. In them relief may range from $2 to $15, but more often from $3 to $6, a week, and usually for not more than six or eight weeks; while dues are somewhat less than in unions offering special accident benefits. Finally, among employees in particular industries not organized into unions, there are a number of benefit societies, some of which provide small allowances for disability, the dues in such being considerably less than the dues in regular unions.

The relief allowed through union benefits shows, on the whole, much correspondence to that of the fraternal associations, while at its best it does not compare unfavorably with that of regular insurance companies. The number of persons receiving aid because of blindness cannot be fixed upon, but it is not likely to be great.[1]

Insurance through Benefits from Associations of Employees with Assistance of Employers

By a number of industrial establishments, especially large corporations, employing considerable numbers of

pending on length of membership; by the International Spinners Union, $150; by the Woodworkers International Union of America, from $150 to $250, depending on length of membership; by the Atlantic Coast Seamen's Union, $200; and by the Lake Seamen's Union, from $50 to $300.

[1] Where in two policies of $1,500 each "loss of sight" was included among the accidents enumerated as disabling one from following his regular vocation, it was held to apply, under a liberal interpretation, to the loss of sight in but one eye, despite the fact that a clause referring to one or both eyes was adopted after the occurrence of the accident. *Maynard v. Locomotive Engineers' Mutual Life and Accident Insurance Association*, 14 Utah, 458, 47 Pac., 1030; 16 Utah, 145, 51 Pac., 259, 69 Am. St. Rep., 602 (1897). Where a policy provided for the payment of $1,200 for total disability, including blindness, no mention being made of the loss of a single eye, but only of physical disqualification, and one eye was so injured as to cause disqualification for continued work, it was held that the expression "any disability" was intended to cover those disabilities not specified, the contention that it was not meant to refer to any parts expressly mentioned being rejected. *Switchmen's Union of North America v. Colehouse*, 227 Ill., 561, 81 N. E., 696 (1907).

workers, there have been instituted among employees organizations with benefit features, under the name of employees' mutual associations, or under a similar appellation. The plan has originated with, and has been offered by, the establishments as a measure of assistance to injured employees, the aim being primarily the creation of relief departments.[1] These associations are thus of less voluntary character than the organizations which we have been considering. The main practical difference between the benefits from them and the benefits from ordinary labor unions, is that the former are usually conferred under the auspices and with the financial help of the employers concerned, while the latter are not. In the associations membership is strongly urged, in a small number being made compulsory, though at the same time there are certain conditions as to admittance, including age, term of service, physical capacity, etc. Operating expenses are generally borne by the corporations; but the actual administration is conducted in large part by the employees directly, the extent of their control often depending upon the extent of their advances to the relief funds. In some instances contributions for these funds come from the employees alone; in others they are furnished jointly by both parties; and in others still they are supplied practically entirely by the employers. On the whole, considerably more than one-half of the receipts for benefit purposes are derived from employees. In nearly all cases provision is made for disability from accidents arising in the course of work, which frequently includes accidents occurring in going to and from work; and there is due application to the loss of sight, which is sometimes directly mentioned. In general the acceptance of benefit constitutes a waiver or release as to the prosecution of any legal claims.

The indemnity allowed for total disability may be paid in a lump sum, or in allowances at stated intervals. If the former, the amount, in case the loss of vision is speci-

[1] In many cases all payments are forfeited on the leaving of the employment.

fied, lies between the extremes of $60 and $4,000, but with more common limits of $250 and $1,000, as regards both eyes, and perhaps one-half or one-fourth as much as regards one eye. Occasionally the allowance is a certain proportionate part of previous annual wages, as one-half or one-third for the loss of both eyes, and a smaller part for the loss of one. Where payment is made periodically, the amount for the loss of both eyes may be a similar proportionate part of the previous wages, or may be between the limits of $1 and $15, usually $6 or $7, a week, continuing from one-third or one-half of a year to four or six years, or even more years, and sometimes a reduced sum indefinitely thereafter; with proportionate amounts for the loss of one eye. In a few cases benefits are paid for a specified number of weeks, but the total amount may not exceed a fixed sum or a certain proportionate part of former wages. In other cases a pension is granted, based upon a small percentage of the wages for each year of a certain number of years, this often being for each year of service 1.0 per cent of the average monthly wages for the ten years preceding. In some cases the rates for temporary disability apply to total disability for a certain period of time. Where the payment is to continue only a certain number of weeks, the basis is usually that of sickness benefits. In some corporations there are other systems, in a number benefits being allowed at discretion. In certain cases the same provisions are adopted as those contained in the workingmen's compensation laws in the State in which operations are conducted.[1]

[1] The amount allowed for total disability by certain railroad companies has been as follows: by the Lake Shore & Michigan Southern, from $500 to $1,000; by the Cincinnati, Hamilton & Dayton, from $100 to $1,000; by the Hocking Valley, from $125 to $1,000; by the Ann Arbor, from $250 to $2,000; by the Chicago & Alton, one-half of wages for 50 weeks, but not in excess of $1,000; by the Atlantic Coast Line (in part), $5 a month; by the Pennsylvania (in part), from 50 cents to $2.50 a day for one year, and one-half such amount thereafter; by the Baltimore & Ohio (in part), from 50 cents to $2.50 a day for one-half year, and one-half thereafter; by the Atlantic Coast Line (in part), Pennsylvania (in part), Baltimore & Ohio (in part), Delaware, Lackawanna & Western, Philadelphia & Reading, Illinois Central, Atchison, Topeka & Santa Fé, Chicago, Rock Island & Pacific, Chicago

The dues paid by employees have a considerable range, extending from 10 cents to 25 cents a week, but averaging about 50 cents a month, these being as a rule deducted from wages. In some corporations different rates are offered, allowing the variations in size of the benefits received.

It may be added that with respect to some establishments, there is written liability insurance for the employees as a whole, or "blanket insurance," by general or by special casualty companies. For total disability, including loss of sight in both eyes, a sum equal to one or one and one-half times the previous annual wages, or a maximum sum of $1,500, is allowed, and for the loss of one eye, often a sum equal to one-eighth of previous wages, or a maximum sum of $200. Premiums are retained from the wages, to which may be added a certain amount by the employer. A number of corporations, furthermore, through the medium of group insurance, so called, without cost to employees, but in recognition of length of service, are now providing insurance against accidental injuries, including loss of sight. A form of this insurance applies to employees outside of their occupation, thus supplementing the workingmen's compensation laws, and securing protection for the entire time. On the other hand, some corporations,

& Northwestern, Chicago, St. Paul, Minneapolis & Omaha, Union Pacific, and Oregon Short Line, a monthly pension equal, for every year of service, to 1.0 per cent of average monthly wages for ten years preceding. Other lines have had different systems. By the Carnegie Steel Company, including the Bessemer & Lake Erie Railroad, the amount for total disability has been 75 cents a day, or $1 for married persons, with 10 cents additional for each child under sixteen years of age; by the Western Electric Company and Wells, Fargo Company, a monthly pension equal, for every year of service, to 1.0 per cent of average monthly wages for ten years preceding; and by Cheney Brothers, one-half wages for six years. With the American Express Company and Butler Brothers there have been somewhat similar systems. By the International Harvester Company for the loss of one eye three fourths of annual wages have been allowed, and for the loss of both, wages for four years, but not less than $2,000. Allowances of the General Electric Company have been similar. By Swift & Company from $400 to $1,600 has been granted for the loss of one eye, and from $800 to $3,200 for the loss of both. By the American Shipbuilding Company one half of annual wages has been allowed for the loss of both eyes, and one-sixteenth for the loss of one. By the United States Steel Company six months' wages have been allowed for the loss of one eye.

especially railroad corporations, act as agents for the regular insurance companies, for the collection of the premiums under individual accident policies on the employees. Finally, as we have had occasion to observe, very often employers are insured, either specially or in connection with more general insurance, against legal suits, both as regards litigation expenses and as regards damages. It is probable that the general enactment of workingmen's compensation laws, the effect of which in certain particulars has just been noted, will have an increasing influence on the entire situation.

From what has been indicated, it would appear that many industrial employees may have the option of insurance either through employees' associations or through their own labor unions, or may have benefits from both sources, though as a matter of fact the members of the former are not usually such persons as belong to the latter. There does not seem to be very much difference in the character of the respective benefits offered, the costs being considered in each case, unless there may possibly be a slight balance on the side of the associations. The number of persons to whom relief is afforded by reason of loss of sight may, as in the previous cases, not be expected to be considerable.[1]

[1] The extent of aid from employers, and also from other sources in past years may be indicated in certain cases. In the State of New York it has been found that of 1,657 accidents reported, 20.6 per cent received indemnity from employers (2.2 per cent receiving all expenses, 2.1 per cent medical attention, 14.0 per cent full wages, and 2.2 per cent part wages); 8.0 per cent, benefits from employees' associations with assistance from employers; 7.1 per cent, benefits from labor unions and fraternal orders; and 3.2 per cent, benefits through personal insurance. Report of New York State Bureau of Labor Statistics, 1899, p. 577. Of 113 cases of permanent disability in this State, 17.7 per cent had insurance or benefits, and 51.3 per cent compensation from employers (17.7 per cent receiving medical attention, 30.9 per cent wages, and 2.7 per cent other aid). Of 11 cases of permanent total disability, 3 6 per cent received insurance or benefits; 92.6 per cent, aid from employers in some form; and 3.8 per cent, other aid. Of 71 cases of partial disability, 8.6 per cent received insurance or benefits, 72.3 per cent aid from the employer, and 19.1 per cent other aid. Report of New York State Employers' Liability Commission, 1910, pp. 217, 219. In Wisconsin of 306 non-fatal accidents, 23.5 per cent received nothing from employers; 32.4 per cent medical attention only; 4.9 per cent, part medical attention; 29.7 per cent, medical attention and something else; and 9.5 per cent, something but not medical attention. Report of United States Employers' Lia-

bility and Workingmen's Compensation Commission, 1912, p. 735. See also *ibid.*, p. 721; Report of New York State Employers' Liability Commission, 1910, p. 31; Report of Illinois Workmen's Compensation Commission, 1910, p. 12. For accidents resulting in the loss of an eye in the Pittsburgh district in 1909, nothing was received in 3 cases; $48, in 1; $50 each, in 2; $75, in 1; $150 each, in 2; and $200, in 1. Crystal Eastman, "Work Accidents and the Law," 1910, pp. 126, 304; *Charities and the Commons*, xxi., 1909, p. 1162; Publications of New York Branch of American Association, for Labor Legislation, 1909, i., p. 6. On payments to injured employees, see also Report of Ohio Employers' Liability Commission, 1910.

NOTE TO CHAPTER XL.—On the subject of indemnities through insurance policies or employees' benefits, in relation to the loss of sight, see Report of United States Commissioner of Labor, 1908; Report of United States Industrial Commission, 1901, viii., pp. xlviii., cclix.; xvii., p. 867; United States Bulletin of Labor, Jan., 1897, p. 39; July, 1898, p. 552; Nov., 1898, p. 829; Nov., 1901, p. 1073; Bulletin of United States Bureau of Labor Statistics, no. 212, 1917, pp. 476, 491, 512; *Monthly Review*, v., 1917, 2, Aug., p. 17; vi., 1918, 2, Feb., p. 192; Report of Wisconsin Bureau of Labor Statistics, 1904, p. 471; Report of New York State Bureau of Labor Statistics, 1899, p. 577; Report of New York State Employers' Liability Commission, 1910, p. 115; Proceedings of New York State Conference of Charities and Correction, 1909, p. 166; Proceedings of National Conference of Social Work, 1917, p. 528; *American Journal of Sociology*, vi., 1901, p. 648; *North American Review*, clxxxi., 1905, p. 921; *American Labor Legislation Review*, vii., 1917, p. 79; *Annals of American Academy of Political and Social Science*, xvii., 1901, p. 260; xxiv., 1905, p. 309; xxvi., 1906, p. 483; lxx., 1917, p. 231; Report of Carnegie Foundation for the Advancement of Teaching, 1915, p. 68; 1916, p. 109; C. R. Henderson, "Industrial Insurance in the United States," 1909; G. L. Campbell, "Industrial Accidents and their Compensation," 1911; F. W. Lewis, "State Insurance," 1909; W. F. Gephart, "Insurance and the State," 1913; R. W. Blanchard, "Liability and Compensation Insurance," 1917; F. C. Schwedtman and J. A. Emery, "Accident Prevention and Relief," 1911; J. B. Kennedy, "Beneficiary Features of American Labor Unions," 1908 (Johns Hopkins University Studies, xxvi.); D. H. Van Doren, "Workmen's Compensation Laws and Insurance," 1918; G. R. Miller, "Social Insurance in the United States," 1918.

CHAPTER XLI

INDEMNITIES PAID FOR THE LOSS OF SIGHT: THROUGH PUBLIC MEASURES

Principles Involved in the Granting of Indemnities of a Public Character

The last form of indemnities possible to be paid on the loss of sight is that which is vested to a greater or less extent with a public character. Such indemnities may take the form of outright grants from public funds; or of payments from private sources, but with public assistance or at public direction. They may also be with or without contribution on the part of the person benefited, in the former case thus partaking of the nature of insurance. In the absence of the element of contribution, and especially in conjunction with the dispensing of funds directly from the state, there is an approach towards the giving of pensions. Considered merely in the light of the bestowal of public money, this is largely the practical issue of the matter. Yet there is involved a real and essential difference. In one case benefit is allowed as an indemnity on the occurrence of a particular disability, and in the other by reason of the presence of a certain condition. In one attention, prospective in its bearings, is directed to the befalling of a casualty, which is to be provided for, no less than guarded against; in the other attention, retrospective in its bearings, is directed to the existence of an invalidism, which calls for treatment. The basis of one is indemnification of the injured party for the disabling injury, and of the other the extension of a palliative to persons in a state of incapacitation.

There are three possible systems of indemnity, including

those in the nature of insurance, with public aspects—those wholly and directly so; those effected at public instance, that is, required by the law at the expense of certain private employments; and those established with public assistance, that is, with contributions both from the state and from other interested parties. So far in the United States only the first two have made an appearance. Of these one, in the form of public allowances for disabilities, is considered in the present chapter, and the other, in the form of legislation for compulsory indemnities on the part of employers to injured employees, or under workingmen's compensation laws, in the next.

Local Systems of Indemnities

In America disability benefits may be accorded by three public agencies: local, State, and Federal. Local systems at present are limited in the main to the allowances or benefits granted by the authorities in some cities, especially the larger ones, to certain employees on their disablement, including their loss of sight, while in service. Such have reference in particular to members of the fire, police, street-cleaning, and similar departments, the amount extended for total disability being usually one-half of the former pay, or from $50 to $100 a month.[1] The provisions of the workingmen's compensation laws apply to employees of municipalities, such being regarded as regular employers, in the States of California, Colorado, Connecticut, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Montana, Nebraska, Nevada, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Porto Rico, Rhode Island, South Dakota, Utah, Vermont, Virginia, Washington, Wisconsin, and Wyoming.

[1] See Report of Illinois Pension Funds Commission, 1916; Report of Pension Fund of City of New York, Pt. I., 1916; Report of Carnegie Foundation for the Advancement of Teaching, 1915, p. 40; 1916, p. 109; Lewis Merriam, "Principles Governing the Retirement of Public Employees," 1918, p. 171.

State Systems of Indemnities

Action by the States in affording indemnities is even more restricted than that of municipalities, perhaps in large measure because of the smaller number of employees of the former. In some instances there are now offered disability benefits to civil employees, including teachers, which are usually one-third or one-half of the previous pay, or from $300 to $700 a year. In all the States in which the provisions of the workingmen's compensation laws apply to municipal employees, they apply as well to State employees, except in Minnesota, New York, and Vermont, and in addition in Massachusetts.[1]

Federal Systems of Indemnities

By the National Government the field of disability indemnities has been invaded to a very wide extent, its action being fairly rapid after the policy was once started. Beginning with measures of a local or of a restricted application, it has now in operation a general enactment for practically all civil employees.[2] It regards itself as an employer, properly amenable to workingmen's compensation provisions. Furthermore, there has been taken action with respect to persons losing sight in military service, a subject to be later considered,[3] which is perhaps the most significant of all.

[1] Application is to workingmen only in Maryland, Massachusetts, Oklahoma, Washington, and Wyoming; to the employment of not less than three persons, in Kentucky; and to county workingmen as well, in Kansas.

[2] The action of the Federal Government in creating disability benefits may well be regarded as of a pioneer character in the present movement in the United States. In 1882 the life saving service was provided for; in 1900, the railway mail service, which in subsequent years was extended to the postal service generally; in 1907, Government employees in the Philippine Islands; in 1908, certain artisans and laborers in the Panama Canal Zone, and later extended to other employees; in 1914, employees in Alaska, special mention with respect to such being made of the loss of sight; and in 1916, all civil employees.

[3] See Chapter XLV.

Possible Extension and Development of Systems of Public Indemnity

We have now examined the extent of those public or publicly directed or assisted systems of indemnity which have a bearing on the loss of sight. How far they are eventually to reach, we cannot as yet say. The action of the Federal Government, especially in respect to its liberal provisions for persons disabled in military service, is most suggestive, and opens up no small prospects. It may be said to have broken ground; and it may be a legitimate question whether its efforts at insurance in particular are altogether to cease with such measures. At any rate, an example has been set which is not likely soon to be forgotten. Into the vast field beside, in the various callings and occupations of civil life, there has also already been made entry by the different States with their workingmen's compensation laws, as we are to see in the next chapter. Indeed, under our form of government, this matter is largely appropriate for State action; and the next and most comprehensive steps, so far as they are deemed advisable, are for the Commonwealths.

The question of indemnities for disabling injuries belongs after all to the general subject of social insurance; and in the extension and application of its principles will be provided indemnity for the loss or impairment of sight. In programs set before us there is embraced to greater or less extent insurance for accidents, sickness, invalidity, and old age, among which there is full place for damage to the vision. In each form the principle of insurance is carried out, in that contributions are made by all parties interested to a common fund, from which benefits are paid to the immediate sufferers. These contributions may be provided in greater or less part by the persons to receive assistance, and perhaps in respect to those engaged in industrial pursuits, who are particularly in need of protection, also by the employer, with general supervision, and possibly with certain

assistance, from the state. The securing of relief in the form of indemnities directly from the employer, but at the eventual cost of the industry, as required in the workingmen's compensation laws, is the first step in this direction, and will in time doubtless affect an increasingly greater portion of the population, so far as concerns the possibility of the loss of sight. There will then have to be considered the larger number of persons outside of industrial activity unable to provide for themselves, especially those who become blind after the ceasing of such activity, or in the advanced years of life, and also for the smaller number who become blind in other circumstances. In all such measures due attention will have to be given to the matter of the prevention of blindness, wherein an even greater importance will lie. In respect to these several questions we shall have to wait upon the general developments of social insurance.

CHAPTER XLII

INDEMNITIES PAID FOR THE LOSS OF SIGHT: THROUGH WORKINGMEN'S COMPENSATION LAWS

Principles Involved in Workingmen's Compensation Laws

We have seen that in suits to recover damages for injuries, including those to the sight, incurred in the course of work there are involved no small uncertainty, delay, and expense; and that the proportion substantially compensated thus is inconsiderable. We have also seen that the assistance received through personal insurance measures, whether in regular insurance companies, in fraternal orders or labor unions with benefit features, or in plans offered by employers, does not affect, on the whole, a great number of employees. We know, furthermore, that few wage-earners are disposed, or are in a position, to save up enough to tide them over periods of disability. On the side of the employers, moreover, with the attitude of the statutes and of the courts becoming more and more favorable towards the interests of workingmen, reflected in the modification or abrogation of the former defenses, and in the making illegal or in the denial of the principle of "contracting out," there has been felt a want of definiteness as well as an increasing burden, which have made many of them not averse to a change. For these reasons there has been sought a different basis upon which indemnities for injuries to employees might be predicated.

It is found that the accidents complained of are not necessarily, or even usually, due to the fault of the workers, but are logically chargeable as a *risque industrielle*, that is, to be ascribed to the hazard existing in the occupation itself.

Consequently the loss should be borne directly by the industry concerned, with compensation to the injured party at its expense; and the cost should be distributed among those who gain from the operation of such industry. Thus looked at, the old idea underlying suits at law, namely, that damages were to be awarded as a recompense for injury, gives way to the conception that provision is but being made for the full carrying on of industrial processes. Instead of the risk being assumed by the party least able to sustain it, there are paid by the consuming public fixed indemnities for the occurrence of disabling accidents, the immediate remuneration being undertaken by the employer. Such is the principle of the workingmen's compensation laws, which now occupy such a large place in industrial relations, and in which social insurance at this time has its widest application.

General Provisions of the Laws

The general development of workingmen's compensation legislation in the United States cannot here be referred to, and the most important features of their present provisions, which are of a multiplicity of detail, can only be pointed out.[1] Though the principle, aside from its application by the Federal Government, was introduced into one of the American States in 1902, the movement may be said really to have begun in 1910, since which date it has spread with the greatest rapidity. Laws are now found in 41 States, besides Alaska, Hawaii, and Porto Rico, and the Federal Government; and it is only a question of time till they are adopted in the remainder of the Commonwealths. The States having them are: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine,

[1] The present citations are in the main based upon Bulletin of United States Bureau of Labor Statistics, no. 203, 1917; no. 240, 1918; no. 243, 1918. See also *ibid.*, no. 126, 1913; no. 155, 1914; no. 185, 1915; *Monthly Review*, vi., 1918, 4, April, p. 260; publications of American Association for Labor Legislation.

Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Porto Rico, Rhode Island, South Dakota, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

In the States of Arizona, California, Hawaii, Idaho, Illinois, Maryland, New York, Ohio, Oklahoma, Utah, Washington, and Wyoming the laws with respect to compensation are compulsory; in the remaining States they are elective. Under the compulsory plan all employers, and usually employees also, coming within the scope specified are required to accept the provisions. Under the elective plan, employers, and most often employees as well, may accept or reject as they see fit; but in the event of failure to accept, the common law defenses are modified or entirely abrogated, except perhaps with regard to contributory negligence to a certain extent, or are called into requisition, as the case may be; or, in other words, penalization is afforded for rejection. As a rule both employer and employee are presumed to elect. Even though the provisions are accepted, suit may in some instances be brought, especially if willful negligence on the part of the employer is proved, or if he fails to insure as required, or is in default in his premiums. Escape from the provisions by special agreement with the employee is rarely possible. In all compulsory States and in some elective States persons connected with occupations not covered may voluntarily come within the provisions, but suffer no penalty for not so doing.

Insurance of risks is required in the majority of the States. Where so prescribed, it may be effected through (1) a monopolistic and exclusive State fund; (2) a competitive State fund, with other insurance as an alternative; (3) private insurance companies, stock or mutual; and (4) self-insurance. Except where there exists a State monopoly, more than one form is usually open. In some cases particular companies may be designated. Where

self-insurance is offered, proof of solvency, or of the ability to meet claims, is required. Where insurance is in a special company, both it and the employer are generally held liable. Often approval of the insurance rates is a prerequisite.

The statutes do not cover all occupations, certain ones being exempted either specifically or by implication, though with respect thereto, as we have noted, there may be acceptance if desired. Domestic service is exempted in all the States except New Jersey; agriculture, in all except Hawaii and New Jersey; and casual labor and employment not for the employer's business, in all except Alaska, Arizona, Kentucky, Nevada, New Hampshire, New York, Oklahoma, Oregon, Porto Rico, and Washington. Nonhazardous occupations, with great variations as to what are so deemed, are excluded in Alaska, Arizona, Illinois, Kansas, Louisiana, Maryland, Montana, New Hampshire, New Mexico, New York, Oklahoma, Oregon, Washington, and Wyoming; employments not for gain (charitable, etc.), in Colorado, Hawaii, Idaho, Kansas, Maryland, Nebraska, New Mexico, New York, Oklahoma, Vermont, West Virginia, and Wyoming; and employments having less than a certain number of workers (from four to eleven, but most often five), in Alaska, Colorado, Connecticut, Delaware, Kansas, Kentucky, Maine, New Hampshire, New Mexico, Ohio, Oklahoma, Porto Rico, Rhode Island, Texas, Utah, Vermont, Virginia, Wisconsin, and Wyoming. Public employees (either State or municipal, or both) are included in all the States except Alaska, Arizona, Delaware, New Hampshire, New Mexico, Porto Rico, Texas, and West Virginia—these having already been referred to, as well as those under the Federal Government. Persons having a salary of more than a fixed sum (from $1,200 to $2,400) are exempted in Hawaii, Idaho, Maryland, New Jersey, Porto Rico, Rhode Island, Utah, and Vermont. In a few States there are further exemptions as to certain particular occupations of a minor character.

The proportion of employees affected by the laws in the different States may be indicated statistically. In the following table are shown, according to the census of 1910, so far as classification is possible with regard to the exempted occupations, without reference to casual employments, the number of persons gainfully employed; the percentage who are employers, including farmers, independent proprietors, etc.; the percentage who are employees subject to the provisions of the laws; and the percentage who are employees not so subject—it being assumed that all elections permitted have been fully made—together with corresponding figures for the States without laws, taken in a body.[1]

[1] Bulletin of United States Bureau of Labor Statistics, no. 203, 1917, p. 66; no. 240, 1918, p. 28. Alaska, Hawaii, and Porto Rico are considered as States.

PROPORTION OF WAGE-EARNERS UNDER WORKINGMEN'S COMPENSATION LAWS

	Number gainfully employed	*Farmers, independent proprietors, etc.*	*Employees covered*	*Employees not covered*
All compensation States..	28,532,641	30.1	48.0	21.9
Alaska	38,848	13.6	27.0	59.4
Arizona	80,716	23.2	40.2	36.6
California	1,058,836	24.1	57.8	18.1
Colorado	318,586	31.8	43.0	25.2
Connecticut	479,598	17.9	67.2	14.9
Delaware	82,056	27.5	46.1	26.4
Hawaii	98,052	11.5	82.3	6.2
Idaho	123,490	41.0	40.6	18.4
Illinois	2,191,568	28.1	39.8	32.1
Indiana	993,066	36.3	50.6	13.1
Iowa	786,220	45.9	33.9	20.2
Kansas	582,732	49.7	18.6	31.7
Kentucky	842,551	50.1	27.3	22.6
Louisiana	659,311	39.6	21.3	39.1
Maine	294,548	30.1	51.0	18.9
Maryland	523,219	22.4	36.0	41.6
Massachusetts	1,497,654	15.7	74.1	10.2
Michigan	1,080,812	33.4	55.3	11.3
Minnesota	788,533	39.2	48.1	12.7
Montana	159,345	30.0	35.7	34.3
Nebraska	417,894	50.4	34.9	14.7
Nevada	41,149	21.1	60.1	18.8
New Hampshire	185,753	23.4	42.9	33.7
New Jersey	1,035,858	16.6	83.2	0.2
New Mexico	113,872	42.6	17.6	39.8
New York	3,897,994	19.8	46.9	33.3
Ohio	1,844,103	28.3	54.7	17.0
Oklahoma	582,419	58.1	14.5	27.4
Oregon	286,334	30.5	33.8	35.7
Pennsylvania	2,996,363	19.3	71.7	9.0
Porto Rico	392,581	15.4	15.6	69.0
Rhode Island	244,924	14.9	71.0	14.1
South Dakota	210,978	56.0	25.6	18.4
Texas	1,504,719	57.5	20.4	22.1
Utah	122,029	33.5	48.6	17.9
Vermont	139,032	33.7	36.6	29.7
Virginia	.....	....	....	....
Washington	488,289	23.9	39.2	36.9
West Virginia	425,654	37.6	47.7	14.7
Wisconsin	862,160	37.7	47.0	15.3
Wyoming	60,795	29.5	29.6	40.9
Non-compensation States.	8,700,000	30.1	0.0	69.9

From this table it appears that of the total number of persons gainfully employed in all the compensation States, 30.1 per cent are of the employing class, and hence not included in the provisions of the laws, and that 21.9 per cent are employees in occupations exempted therefrom, leaving 48.0 per cent, or nearly one-half, entitled to benefit. Of the total number of employees in these States, the proportion who may be indemnified is slightly over two-thirds (68.7 per cent). The number of employees not so favored is a little over six and a quarter million; and if to this be added the total number of employees in non-compensation States, we have over twelve million employees, or practically one-half of all in the Union, unprovided for. This is exclusive of inter-State commerce employees, numbering more than one and a quarter million, who are not regarded as entirely subject to State laws, and for whom no general system has as yet been offered. On the other hand, there are to be added nearly six hundred thousand civilian employees provided for by the Federal laws.

The workingmen's compensation laws, it is to be observed, have not been introduced nearly as widely in agricultural States as in industrial ones, practically all the States predominantly industrial now having them. In agricultural States there is thus relatively less protection for workers than in industrial States.

The proportion of employees affected varies greatly in the different States. Generally speaking, however, the more a State is devoted to agriculture, the larger is its proportion of employers, of whom over four-fifths are farmers or home-farm laborers—often themselves in need of protection—while, *per contra*, the more a State is given over to industrial pursuits, the larger is its proportion of employees. Of the industrial workers of the entire country, relief is now possible for very nearly one-half. The rank of the States is usually determined by the character of the occupations excluded. Those making no exemptions of

course stand first, the mean percentage of employees covered in them being 96.2; those excepting agriculture and domestic service as a rule come second, the mean percentage in them being 76.2; those excepting numerically small occupations follow, the mean percentage in them being 68.0; and those excepting non-hazardous occupations have the last place, the mean percentage in them being 45.1. Of the employees for whom no provision is made, 35.5 per cent are excluded because of agriculture; 31.5 per cent, because of domestic service; 4.5 per cent, because of numerically small occupations; and 28.5 per cent, because of non-hazardous occupations. These exclusions constitute, respectively, 11.1 per cent, 9.9 per cent, 1.4 per cent, and 8.9 per cent of the total number of employees, or in all 31.3 per cent. The proportion of each exclusion to the total exclusion in a particular State depends upon the entire number excluded therein as well as upon the number of employees in the excepted group.

The situation, however, with respect to the number of employees covered under the provisions of the laws is not as favorable as the foregoing computations would indicate. Only the limit of possibilities has in reality been represented. The assumption has been that employers in States permitting election have come under the statute. As a matter of fact, this is largely the case in but a part of them. So far as report is made, the proportion of employees in respect to whom such action is taken is from three-tenths to nine-tenths, with perhaps three-fourths as an average. Voluntary acceptance with respect to particular employments not included in the provisions has been mainly confined to public employees.

In most of the statutes reference is to the occurrence of an "accident," by which is meant a fortuitous event, happening from without, of a sudden and tangible nature, and causing an immediate result; that is, a traumatic incident, and one excluding the effects of disease. In the remainder the word "injury" is used, which is of broader

significance, though on the part of the courts there is a similar tendency to shut out diseases. In either case there seems little possibility of the preclusion of injuries to the eye. In every State the occurrence must have been in the course of employment, and in nearly every one must have arisen out of it. Accidents resulting from willful intention or intoxication are generally rejected, and in some instances those from willful misconduct, or those in which there has been violation of the safety laws. In a certain number in such event there is a reduction of the amount to be awarded. On the other hand, this may be increased if the employer is found to have been negligent in the use of required safeguards.

In practically all the States payments are made by the employer alone. They are usually in monthly or weekly installments, it being the aim to prevent unwise or unnecessary expenditures possible in the case of lump sums, though the latter are worth more to the sufferer at the time. Sometimes computations into such are allowed under careful regulations. Benefits are generally subject to revision as the need may arise. Nearly everywhere, in order to remove the possibility of malingering, a "waiting time" of from one to three weeks, most often of two, is required before the benefits begin, though for protracted disabilities they may relate back. Nearly everywhere also a limit is placed upon the time within which notice of the accident is to be given, and upon the time within which a claim may be made, the former being from ten to thirty days, and the latter from six months to two years, though there may very often be an extension if prejudice has been shown by the employer. In most of the non-compulsory States prescribing insurance, claims have preference against the property of the employer. As a rule the compensation is non-assignable, and is exempt from attachment or execution.

A further benefit in the laws is in the medical relief afforded. Much is to be gained by timely and thorough

treatment, which very often may reduce the damage inflicted, and sometimes effect a more or less complete restoration. In most of the States it is required that "reasonable and necessary medical, surgical, and hospital service" be provided. This frequently is to last for a couple of weeks, though occasionally it may be for an unlimited period. The cost may be anywhere from $25 to $250, with an average perhaps of $100, there being additional service allowed in some instances for special cases. Generally if the employer fails to furnish a physician, the employee may choose one. In some cases it is provided that if it appears probable that an operation will be of benefit, this must be accepted, or else no compensation will be allowed.

In two States action has been taken for the restoration as far as possible to industrial activity, of persons who receive injury in the course of their employment—a matter to the significance of which attention has already been called in our consideration of industrial provision for the blind. In 1918 Massachusetts created, under its Industrial Accident Board, and with the coöperation of the State board of education, a "division for the training and instruction of persons whose capacity to earn a living has in any way been destroyed or impaired through industrial accident," incurred within the State. Aid is to be rendered to them "in obtaining such education, training, and employment as will tend to restore their capacity to earn a livelihood." Suitable courses may be provided at institutions receiving State funds. In Wisconsin similar provisions have been adopted by the State Industrial Commission.[1]

In a majority of the States there are special administrative boards—there being today a tendency to consolidate all industrial functions in one body—for the purpose of carrying out the provisions of the laws, which classify industries, fix and collect premiums, receive reports, investigate claims, settle disputes, hear cases, make awards, issue decrees, pay compensation, and perform other duties.

[1] See *American Labor Legislation Review*, viii., 1918, p. 294.

In the minority procedure is through the regular courts, though often with assistance from some State official. With either method there may sometimes be special subcommittees to hear and settle cases.

In these laws the reporting of accidents is usually required to a greater or less extent. In a number the taking of special precautions for their prevention is enjoined upon employers. In such measures are found, as we have noted in a former connection, some of the most valuable provisions of all. In this way a great impetus is to be given to efforts for the avoidance of accidents, resulting in the installation of safeguards of various kinds, among which will be not a few for the protection of the sight.

Provisions of the Laws Applying Especially to the Loss of Sight

In the enactments it is generally provided that for total and permanent disability a certain sum shall be awarded to the injured person, and for partial disability a smaller sum. As blindness in both eyes amounts to the former, its occurrence at once entitles the sufferer to the full allowance; while blindness in one eye entitles him to a proportionate part. In nearly all cases, however, there is special and distinct enumeration of the loss of sight as total permanent disability. In the exceptions, namely, in Alaska, Arizona, Indiana, New Hampshire, and New Mexico, and under the Federal Act, loss of sight is covered under the general terms, though there is no doubt that, it being sufficiently implied thereunder, due indemnification may no less readily be secured. In all of the States specifying the destruction of vision, it is declared that the loss of sight in both eyes, such as is "total irrecoverable," "entire and irrecoverable," or the like, shall constitute total disability, for which compensation is to be duly made. In the State of Wisconsin, in addition, the loss of sight is referred to

as "total blindness in the second eye," mention having already been made of total blindness in one eye. For the purpose of really meeting the situation in respect to the loss of sight, the only satisfactory method is to make provision for "practical" blindness, whether total or not. "Total" blindness or loss of sight may not be the result in every case of serious impairment of vision; and if most of the statutes should be construed literally, the injured party might in many instances be quite without redress. Even though there should be a remnant of sight afterward, yet if this should prove so slight as to be practically of no avail in industrial pursuits, the sufferer is really incapacitated, and is in fact "blinded." In other words, compensation should be expected for "industrial blindness" as well as for "total blindness." In two States, Connecticut and Massachusetts, there is given a definition of blindness, which, covering as it does both kinds, well answers the need, this being the "reduction" of the eyesight "to one-tenth of normal vision in both eyes with glasses"; while in Maryland with reference to a "fractional part" of vision, a nearly equivalent statement is found. The special schedule in use in West Virginia for determining the total impairment of vision is to be noticed later.

As to the effect of the loss of one eye when the other has already been lost, the statutes vary. In a small number of States a second injury is to be compensated on the basis of this second injury alone, without reference to the previous injury. In a larger number the compensation is the difference between the compensation for the total resulting disability and the compensation payable for the first injury. In some cases the previous loss of an eye is directly mentioned.

The amount of compensation allowed for the loss of sight in both eyes—and for total permanent disability in those States without its specific mention—is usually a certain proportionate part of the average wages received for a prescribed period, as daily, weekly, or monthly, prior to

the time of the injury, with often a minimum sum of from three to six dollars a week, and a maximum of from eight to eighteen,[1] which is to continue for a stated period, with sometimes a further limitation as to the total amount to be given. The proportion, though in some cases greater, is most frequently one-half. It is such in Arizona, Illinois, Colorado, Connecticut, Iowa, Louisiana, Maine, Maryland, Michigan, Nevada, New Hampshire, New Jersey, New Mexico, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Vermont, Virginia, and West Virginia. The proportion is 55 per cent in Idaho, Indiana, and Utah; 60 per cent in Hawaii, Kansas, Minnesota, and Texas; 65 per cent in Kentucky and Wisconsin; and two-thirds in Massachusetts, New York, and Ohio, and under the Federal law. In Montana it is one-half for the first 400 weeks, after which time the amount is $5 a week; in Idaho, 55 per cent for the first 400 weeks, and then $6 a week; in Delaware, one-half for the first 270 weeks, and then one-fifth; in Nebraska, two-thirds for the first 300 weeks, and then 45 per cent; in California, 65 per cent for the first 240 weeks, and then two-fifths; and in Utah, 55 per cent for the first 5 years, and then two-fifths. In Oregon the amount allowed is $30 a month in case the injured party is unmarried, or in case there is a husband not an invalid; $35 in case there is a wife or disabled husband, but no child under sixteen years of age; and for each child under this age an increase of $6, but in no event to exceed $50 for all. In Washington the terms are similar, with the respective sums $20, $25, $5,

[1] The limits are $3 and $7 a week in Porto Rico; $3 and $10 in Louisiana; $3 and $12.50 in Vermont; $3 and $18 in Hawaii; $4 and $8 in West Virginia; $4 and $10 in Delaware, Maine, Massachusetts, Michigan, and Rhode Island; $4.17 and $20.83 in California; $5 and $8 in Colorado; $5 and $10 in New Mexico, New Jersey, Pennsylvania, and Virginia; $5 and $12 in Kentucky, Maryland, and Ohio; $5 and $14 in Connecticut; $5 and $15 in New York, Texas, and Utah; $5.50 and $13.20 in Indiana; $6 and $10 in Montana and Oklahoma; $6 and $12 in Idaho, Nebraska (later, $4.50 and $9), and South Dakota; $6 and $15 in Illinois, Iowa, and Kansas; $6.50 and $11 in Minnesota; $7.50 and $15 in Wisconsin; $20 and $50 a month in Nevada; and $33.33 and $66.67 under the Federal law. In New Hampshire there is only an upper limit of $10. In certain cases the actual wages if below the minimum are to be paid.

and $35. In Wyoming a lump sum of $1,400 is allowed, which may be increased according to family relations; in Alaska, of from $3,600 to $6,000; and in Porto Rico, of from $2,000 to $4,000.

The length of time during which the compensation is to continue varies from a specified period to the duration of the disability if total. The latter is much the more liberal provision, for with blindness it means through life. It is found in Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada, New York, Ohio, Oregon, Washington, Utah, West Virginia, and Wisconsin, and under the Federal law. In South Dakota allowances are made till the total reaches $3,000, in Delaware till it reaches $4,000, and in Maryland till it reaches $5,000. In Illinois they are made till the total equals the amount of death benefits. Compensation is continued for 300 weeks in New Hampshire; 400 in Iowa, Louisiana, and New Jersey; 401 in Texas; 500 in Indiana, Oklahoma, and Rhode Island; 520 in Connecticut and New Mexico; and 8 years in Kansas. It continues for 260 weeks in Vermont, but with a limitation of $4,000; 270 in Delaware, but with a limitation of $4,000; 312 in Hawaii, but with a limitation of $5,000; 500 in Maine, but with a limitation of $3,000; 500 in Massachusetts, Michigan, Pennsylvania, and Virginia, but with a limitation of $4,000; 550 in Minnesota, but with a limitation of $5,000; and 8 years in Kentucky, but with a limitation of $5,000. In West Virginia there are graduated proportions, based on the full extent of the disability, being 40 per cent through life for disability between 71 and 85 per cent, and 50 per cent for disability over 85 per cent.

Of the loss of one eye express mention is found in the apportionment of benefits in the laws of all the States except those of Arizona, California, New Hampshire, Porto Rico, and West Virginia, being included in these under general partial disability. In Connecticut, Indiana, Maine, and Massachusetts there is reference to the reduction of vision to less than one-tenth of normal. In some of the

States a distinction is made between ordinary loss of sight and loss through enucleation, the latter being regarded as a slightly more serious injury. In a small number special ratings are provided for the loss of an eye in conjunction with injury to some other part of the body, which are based upon a combination of the respective compensations offerred. In several States proportionate compensation is to be accorded for the partial loss of an organ or member, or for the partial loss of its use.

As with the loss of sight in both eyes, a proportionate part of the previous wages is awarded, with often an upper limit per week, and sometimes a lower limit as well, these being as a rule the same as, or slightly less than, the ones for the loss of both eyes. There is also in certain instances a fixation of the total sum to be received. The ratios as to amounts do not differ in the two cases except in Arizona, Hawaii, and Kansas. The time during which compensation is to last is, however, generally speaking, much shorter for the loss of one eye than for the loss of both. In a few States having no direct reference there is apparently no change, but in most the time in one case is only from one-half to one-fifth that in the other, while the limitation to the total award is usually somewhat smaller for the loss of one eye. The term is 50 weeks in Massachusetts and Rhode Island; 100 in Idaho (120 for enucleation), Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland (total not to exceed $3,000), Michigan, Minnesota, Montana (120 for enucleation), Nebraska, New Jersey, New Mexico (110 for enucleation), Ohio (total not to exceed $3,750), Oklahoma, South Dakota, Texas, Utah (120 for enucleation), and Virginia; 104 in Colorado (139 for enucleation, and total payment not to exceed $2,008) and Connecticut; 110 in Kansas; 113 in Delaware; 140 in Wisconsin (160 for enucleation); 125 in Pennsylvania; 128 in New York; 260 in Vermont; 300 in New Hampshire; 335 in Kentucky (total not to exceed $4,000); 25 months in Nevada; and during life in California. In Oregon there may be $25 a month

for 40 months, or a lump sum of $850. In Washington the compensation is limited to $1,500, and in Wyoming to $900 ($1,200 for enucleation). In Alaska it is from $1,440 to $2,400, depending on family relations. The allowance is one-half the difference between past and present wages in Arizona (total not to exceed $4,000) and Kansas. In Hawaii compensation is one-half of previous wages, continuing for 128 weeks (total not to exceed $5,000). In Massachusetts and Rhode Island the allowance is added to the regular awards for partial disability. Under the Federal Act the allowance is two-thirds of such difference (not exceeding $66.67 a month). In West Virginia, as we have noted, the compensation depends on the extent of the disability. In Wisconsin it is also provided that for the loss of the second eye, compensation may be continued for 280 weeks (320 for enucleation).

It may be doubtful whether there is, on the whole, sufficient distinction in the statutes between the loss of one eye and the loss of both, the respective ratings of the two not indicating the actual differences involved; for, serious as is the want of vision in one eye, it is something far other than real blindness. It is likely, however, that with greater knowledge and greater experience there will be adjustments to the true situation.[1] Already there has been introduced in West Virginia the principle of allowances proportioned to the extent of disability, which may include the impairment of vision in one eye in relation to that in the other, or the creating of a disability as to both eyes by the injury of one and the impairment of sight in the other—a principle

[1] The loss of a single eye does not, it seems, often impair to any material extent one's earning power, though at times it is claimed that persons so affected are discriminated against. In an investigation in Massachusetts it has been found that in four-fifths of the cases there was no decrease in such respect; and that in the cases where there was a decrease, this was from one-half to one-fourth of former earnings. Special Report of Massachusetts Board of Education Relative to the Training of Injured Persons, 1917, p. 43. Of 45 cases of injury to the eye in California, there was a decrease from former earnings in 21.0 per cent, an increase in 25.0 per cent, and no change in 54.0 per cent. In 73.0 per cent there was reëmployment at the previous occupation. *Monthly Labor Review*, vii., 1918, 4, Oct., p. 62. See also C. B. Labatt, "Commentaries on the Law of Master and Servant," 1913, § 1084.

of European origin.[1] In the adjoining table is shown the proportion of permanent disability of the eye as expressed in percentages of total disability, employed in this State, there being allowed for each per cent of disability, three weeks' compensation.[2]

How far the rates provided in the laws for blindness may be regarded as adequate, is not an immediate question here. Like the rates for different forms of disability, they are based on the capacity for service to be rendered and on the loss sustained, including the cost of medical treatment and other expenses. They must be worked out in the course of time in conjunction with various factors, and according to various standards; and are to be considered as a part of the large question of industrial indemnities. The indemnities now afforded compare in their size at least favorably with those secured through suits at law or through schemes of personal insurance. They have, moreover, the inestimable advantage of being certain and available to all within the terms of the law, and of being bestowed without expense to the sufferer.

[1] In the course of the amendment of the statutes, which is almost a continuous process, the tendency is to make more and more generous provisions.

[2] See Bulletin of United States Bureau of Labor Statistics, no. 203, 1917, p. 103; no. 240, 1918, p. 69. By the Industrial Accident Board of California injuries to the eye are classified according to the nature of the disability, with the relative values ascribed as follows: (1) complete loss of both eyes, 64; (2) complete loss of sight of both eyes, 64; (3) complete loss of one eye, 26; (4) complete loss of sight of one eye, 21; (5) complete loss of sight of one eye, plus such impairment of sight of other eye as to prevent reading or writing but with ability to find one's way, slight, 58, moderate, 60, severe, 62; (6) loss of sight of one eye, leaving no scar or blemish such as would afford an observer evidence of such loss, 16; (7) permanent impairment of vision of both eyes to the extent of rendering them useless for purposes of high visual requirement, but not for finding one's way, slight, 57, moderate, 59, severe, 61; (8) such permanent impairment of the vision of one eye as to render it useless for purposes of high visual requirement, but not affecting one's ability to find his way, the other being uninjured, 6; (9) hemorrhage of the eye, causing defective vision at times only, 6; (10) paralysis of the muscles of both eyes by reason of injury to the sockets, causing double vision, 41; (11) paralysis of the muscles of one eye by reason of injury to the socket of that eye, causing immobility and double vision, 21; (12) injury to the eye socket, causing immobility of the eyeball, with attendant impairment of range of vision only, 16; (13) laceration of lacrymal duct, causing chronic overflow of tears, 6. *Ibid.*, no. 157, 1915, p. 194; no. 212, 1917, pp. 175, 193, 240; *Monthly Bulletin*, vi., 1918, 3, March, p. 87. See also H. Magnus and H. V. Würdeman, "Visual Economics," 1902; G. M. Kober and W. C. Hanson, "Diseases of Occupation and Vocational Hygiene," 1916, p. 328; I. M. Rubinow,

PERMANENT DISABILITY OF EYE EXPRESSED IN PERCENTAGE OF TOTAL DISABILITY

Visual Capacity	20/20	19/20	18/20	17/20	16/20	15/20	14/20	13/20	12/20	11/20	10/20	9/20	8/20	7/20	6/20	5/20	4/20	3/20	2/20	1/20	0/0
20/20...	0	1	3	5	6	8	10	11	13	15	16	18	20	21	23	25	26	28	30	31	33
19/20...	1	3	5	7	9	10	12	13	15	17	19	21	23	24	26	27	29	31	33	35	37
18/20...	3	5	7	9	11	12	14	15	17	19	21	23	25	26	28	30	32	33	35	37	40
17/20...	5	7	9	11	13	15	16	18	20	21	23	25	27	28	30	32	35	36	38	40	43
16/20...	6	9	11	13	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
15/20...	8	10	12	15	16	18	20	22	24	26	28	30	32	34	36	38	41	43	45	47	49
14/20...	10	12	14	16	18	20	22	24	26	28	30	32	35	37	39	41	44	46	48	50	54
13/20...	11	13	15	18	20	22	24	27	29	31	33	35	38	40	42	44	47	49	51	53	57
12/20...	13	15	17	20	22	24	26	29	31	34	36	38	41	43	46	48	50	53	55	57	60
11/20...	15	17	19	21	24	26	28	31	34	36	38	40	43	46	48	50	53	56	57	60	63
10/20...	16	19	21	23	26	28	30	33	36	38	41	43	46	48	50	53	56	58	60	63	66
9/20...	18	21	23	25	28	30	32	35	38	40	43	46	49	52	54	56	59	61	64	67	70
8/20...	20	23	25	27	30	32	35	38	41	43	46	49	52	55	57	60	62	65	68	71	73
7/20...	21	24	26	28	32	34	37	40	43	46	48	52	55	57	59	62	65	67	70	73	77
6/20...	23	26	28	30	34	36	39	42	46	48	50	54	57	59	62	66	68	71	74	77	80
5/20...	25	27	30	32	36	38	41	44	48	50	53	56	60	62	65	68	71	74	77	80	83
4/20...	26	29	32	35	38	41	44	47	50	53	56	59	62	65	66	71	75	78	81	84	87
3/20...	28	31	33	36	40	43	46	49	53	55	58	61	65	67	71	74	78	81	84	87	90
2/20...	30	33	35	38	42	45	48	51	55	57	60	64	68	70	74	77	81	84	87	90	94
1/20...	31	35	37	40	44	47	50	53	57	60	63	67	71	73	77	80	84	87	90	94	97
0/0....	33	37	40	43	46	49	54	57	60	63	66	70	73	77	80	83	87	90	94	97	100

Judicial Decisions in Cases Involving Injuries to the Eye

To be considered now are the judicial decisions, whether through courts or through special administrative bodies, which have been rendered in cases involving injury to the eye under the Acts. These decisions are concerned with not a few matters in the interpretation and application of the provisions, all to be determined in accordance with the general rules of the law, and with recognition of the usual rules of construction.[1]

Perhaps most attention has been directed to the measuring or assessing of damages, or to the apportioning of awards.[2] In case the statute is silent on the subject, it

"Social Insurance," 1913, p. 194; *Journal of Political Economy*, xxiv., 1916, p. 951; xxv., 1917, p. 961; *Annals of Ophthalmology*, x., 1901, p. 219; *Medical Record*, xc., 1916, p. 765; *Ophthalmology*, xi., 1915, pp. 274, 526; *New York Medical Journal*, ciii., 1916, p. 881; *Wisconsin Medical Journal*, xvii., 1918, p. 54; *Pennsylvania Medical Journal*, xxi., 1918, p. 278; *New York State Journal of Medicine*, xviii., 1918, p. 284; Transactions of American Academy of Ophthalmology and Oto-Laryngology, 1914, p. 109; Bulletin of Bureau of Labor Statistics, no. 216, 1917, p. 20; no. 234, 1918, pp. 58, 276.

[1] See A. B. Honnold, "Treatise on American and English Workmen's Compensation Laws," 1917, pp. 478, 619, 625; N. H. Dosker, "Manual of Compensation Laws," 1917, pp. 121, 149, 172, 1078.

[2] *Vishney v. Empire Steel & Iron Co.*, 87 N. J. L., 481, 95 Atl., 143 (1915) (for loss of 80 per cent of vision in both eyes, 80 per cent of wages to be allowed for 400 weeks, and not 80 per cent for 100 weeks for each eye); *Koenig v. International Harvester Co.*, 2 Wis. Ind. Com. Rep., 54 (1913) (injury from piece of steel from tool); *Koch v. Simmons Mfg. Co.*, 2 Wis. Ind. Com. Rep., 51 (1913) (loss of eye from flying up of steel in manufacture of iron bed); *Mews v. Jos. Witting Co.*, 2 Wis. Ind. Com. Rep., 56 (1913) (loss of eye); *Stoughton Wagon Co. v. Myre*, 163 Wis., 132, 157 N. W., 552 (1916) (loss of four-fifths of sight in one eye); *McMyer Mfg. Co. v. Mehnke*, 126 C. C. A., 147, 209 Fed., 5, 4 N. C. C. A., 685 (1913) (loss of sight in one eye from chipping of casting by fellow employee); *Oliver v. Christopher*, 98 Kans., 660, 159 Pac., 397 (1916) (loss of one eye, causing inability to gauge properly); *Mockett v. Ashton*, 84 N. J. L., 452, 90 Atl., 127, 4 N. C. C. A., 862 (1913) (eyesight affected one-third); *Kuschman v. Fuller-Warren Co.*, 2 Wis. Ind. Com. Rep., 49 (1913) (loss of one eye by being struck in assembling parts of stove); *Premuzich v. Zieman*, 1 Ill. Ind. Bd. Dec., 391 (1915) (loss of 65 per cent of sight from emery wheel); *Megrigian v. Michigan Malleable Iron Co.*, Mich. Ind. Acc. Bd. (1913) (eye lost from crushing in doorway); *Enterprise Foundry Co. v. Donahue*, 2 Cal. Ind. Acc. Dec., 465 (1915) (injury from hot sand); *Ainsworth v. Drouillard*, 2 Cal. Ind. Acc. Dec., 14 (1915) (injury from splashing of stain); *Anderson v. Ashmore Mutual Telephone Co.*, 1 Ill. Ind. Bd. Dec., 132 (1915) (eye lost from refilling electric battery); *Randa v. Duluth, Log Co.*, Minn. Ct. Dec., 36 (1915) (loss of one eye); *Struple v. Bishop*, 1 Ill Ind. Bd. Dec., 23 (1914) (loss of eye from fall from ladder); *Milich v. Northwestern Pacific R. Co.*, 2 Cal. Ind. Acc. Dec., 124 (1915) (80 per cent of eyesight lost from explosion of blast); *Armstrong v. Rex Spray Co.*, 1 Cal. Ind. Acc. Dec., 190 (1914) (eye injured

has readily been held that the loss of both eyes constitutes total disability, to be compensated accordingly.[1] There has likewise been general agreement in regarding what is practical blindness, or the impairment of the vision to a degree just short of absolute blindness, as actually such.[2] Should an operation offer promise, and be attended with no further danger, it must be accepted;[3] but should there

from splashing of chemicals in the cleaning of a storage tank); *Keatley v. Shields & Sons*, 1 Cal. Ind. Acc. Dec., 7 (1914) ("disciform keratitis" from iron rust or similar substance); *Pavitch v. Illinois Bridge Co.*, 1 Ill. Ind. Bd. Dec., 20 (1914) (cement blown into eye in mixing); *Cooper v. Massachusetts Employees' Insurance Assn.*, 2 Mass. Work. Comp. Rep., 573 (1914) (total disability from acute nephritis as the result of being struck by a trolley wire); *O'Connel v. Sims Magneto Co.*, 85 N. J. L., 64, 89 Atl., 922 (1913) (compensation not to be for injuries to eye and other injuries taken together); *Morey v. Worden*, 2 N. Y. St. Dep. Rep., 494 (1915) (compensation to be extended on basis of wages actually received, and not on that of 1/52 of average annual earnings); *Nelson v. Kentucky River Stone & Sand Co.* (Ky.), 206 S. W., 473 (1918) (loss of eye itself regarded as a more serious disability than "loss of sight" in it); *Brown v. Massachusetts Employees Insurance Assn.*, 3 Mass. Work. Comp. Rep., 758 (1914) (compensation both for general disability, and for loss of eye from emery dust or other matter); *Cicero v. United States Casualty Co.*, 1 Mass. Work. Comp. Rep., 215 (1913) (additional compensation for 14/200 impairment of sight, besides other injuries, from explosion of dynamite being rammed into a hole); *Wolyniski v. Frankfort General Insurance Co.*, 1 Mass. Work. Comp. Rep., 220 (1913) (additional compensation for injury from kick of horse being watered in a sales stable); *Dreyfuss v. Massachusetts Employees Insurance Assn.*, 1 Mass. Work. Comp. Rep., 46 (1913) (additional compensation for reduction of sight of one eye to one-tenth from being struck by a chip in knocking a reamer against a countersink to loosen it); *Callahan v. Fidelity & Dep. Co. of Maryland*, 1 Mass. Work. Comp. Rep., 251 (1912) (additional compensation for loss of eye); *Wazneak v. Buffalo Gas Co.*, 175 App. D., 268, 161 N. Y. Supp., 676 (1916) (loss of one eye); *Olson v. Berwind Fuel Co.*, Bull. Minn. Dept. Labor and Ind., Sept., 1917, p. 14 (loss of one eye).

[1] *Kraljvich v. Yellow Aster Mining Co.*, 1 Cal. Ind. Acc. Dec., 554 (1915); *Sampo v. Yellow Aster Mining Co.*, 2 Cal. Ind. Acc. Dec., 539 (1915); *Galante v. Mammoth Copper Mining Co.*, 2 Cal. Ind. Acc. Dec., 732 (1915).

[2] *Cowles v. Wilkenda Land Co.*, 1 Conn. Comp. Dec., 361 (1914); *Beauregard v. Titchener & Co.*, 1 Ill. Ind. Bd. Rep., 8 (1914) (loss of four-fifths of vision of eye); *State v. District Court of Blue Earth County*, 133 Minn., 439, 158 N. W., 700 (1916) (complete loss of sight in one eye and 95 per cent of that in the other, though that of latter might, with glasses, be increased to one-third, together with other injuries); *Stachuse v. Fidelity and Casualty Co. of New York*, 2 Mass. Work. Comp. Rep., 324 (1915) (traumatic cataract resulting from striking of one eye by belt, with sympathetic ophthalmia in the other); *In re O'Brien*, 228 Mass., 211, 117 N. E., 1 (1917) (sight of an eye, struck by a piece of steel, reduced to 1/60 without glasses, and being nearly normal with them, but causing double vision, regarded as loss of one-tenth); *Macheo v. Employers Liability Assurance Corp.*, 3 Mass. Work. Comp. Rep., 488 (1914) (sight in one eye, as result of plaster falling in, with glasses blurred, but practically normal without good eye).

[3] *Nicoterio v. Globe Indemnity Co.*, 2 Mass. Work. Comp. Rep., 532 (1914) (eye

be no assurance of beneficial results, or should there be involved the possibility of other damage, full compensation may be directed without the election of such remedy.[1]

In the event that the extent of an injury cannot be determined till some time in the future, the usual procedure is to make award according to the apparent condition, with the understanding that it will be subject to future developments.[2] In ascertaining the real loss suffered, little difficulty is met where the earning power is seriously or substantially affected.[3] In case, however, this should prove to be small,

struck by piece of steel); *Joliet Motor Co. v. Industrial Board,* 280 Ill., 148, 117 N. E., 423 (1917) (development of cataract fifteen months after eye struck by chipping of cone being hammered into an axle).

[1] *Lewis v. Goodyear India Rubber Glove Mfg. Co.,* 1 Conn. Comp. Dec., 238 (1915) (benefit likely only in case of loss of sight of good eye in person eighty-two years of age); *Krameski v. New Haven Clock Co.,* 1 Conn. Comp. Dec., 699 (1916) (one-tenth of vision in one eye possibly increased to one-half, but at rendering useless of other eye); *Mandigo v. Fidelity & Casualty Co. of New York,* 4 Mass. Work. Comp. Rep., 188 (1915) (operation advised against by employee's physician). Where the removal of the lens of an eye was required as the result of its being struck by a particle of emery or other matter, reducing the vision to 3/200 without glasses in conjunction with the other eye, but which was liable to be increased to 4/10 by an operation, with the disuse of the latter eye, compensation was based on the first proportion. *Latak v. Employers Liability Assurance Corp.,* 1 Mass. Work. Comp. Rep., 443 (1913).

[2] *Arcangelo v. Gallo & Laguidaro,* 177 App. D., 31, 163 N. Y. Supp., 727 (1917) (vision of eye, as result of a drop of plaster falling into it, reduced to 5/200, but in two years likely to improve to 20/70 or 20/50); *Pumpanelli v. Aberthaw Construction Co.,* 1 Conn. Comp. Dec. 620 (1916) (improvement doubtful for one eye); *Bronzetti v. Employers Liability Assurance Corp.,* 1 Mass. Work. Comp. Rep., 297 (1913) (award for traumatic cataract, caused by striking of eye by piece of die of boiler plate which broke off on being struck by a punch, not delayed to determine whether, upon its "ripening," vision might be increased by an operation to one-half of normal); *Feldman v. Braunstein,* 87 N. J. L., 20, 93 Atl., 679 (1915) (award as for permanent disability, to cease in case an operation proves beneficial, for injury, which without it may be temporary, but with it may be permanent, involving loss of 90 per cent of vision); *Blass v. Studebaker Corp.,* 1 Cal. Ind. Acc. Dec., 162 (1914) (not possible to determine for one year whether an injury to the eye from a small piece of steel likely to improve); *Brennan v. Travelers Insurance Co.,* 3 Mass. Work. Comp. Rep., 445 (1914) (burn from hot solder or acids, not involving earning capacity); *Foley v. Casualty Co. of America,* 4 Mass. Work. Comp. Rep., 425 (1915) (operation later if advisable for loss of useful vision from striking of eye by snapping off of sharp end of wire); *Haughland v. Howe,* 1 Conn. Comp. Dec., 401 (1915) (vision of one eye reduced to 1/40 without glasses, and to 1/10 with them, from being struck by a stone); *International Motor Co. v. Purcell* (N. J. L.), 103 Atl., 860 (1917) (loss of at least one-half of vision in both eyes considered as permanent).

[3] *Gorrell v. Battelle,* 93 Kans., 370, 144 Pac., 244 (1914) (sight of one eye lost and that of other weakened, resulting in inability to measure distances); *Swann v. Sargent & Co.,* 1 Conn. Comp. Dec., 433 (1914) (loss of one eye and injury to the other,

despite the infliction of the injury, there arise differences among the courts. Some hold that the injured person may insist upon his technical rights under the law and receive compensation; [1] and others that, provided he can continue work largely as before, he is not entitled to compensation, it being his duty in the eyes of the law to reduce the extent of his injury as much as possible.[2] The courts are likewise divided as to the effect on the situation of, or the allowance to be made for, a previous injury or impairment, which may be regarded as having laid the foundation of the present disability, or as having precipitated it. Under the strict view, no compensation may be awarded if the previous affection is but remotely involved, or if the last accident would in itself have been sufficient to occasion the damage. Should the prior condition have already been serious, very strong evidence will be required to show that the injury in

entailing incapacity for work); *Christ v. Pacific Telephone & Telegraph Co.*, 1 Cal. Ind. Acc. Dec., 26 (1912) (eye lost from striking of a piece from a sledge hammer); *Czuprinski v. Mechanical Mfg. Co.*, 1 Ill. Ind. Bd. Dec., 169 (1914) (loss of one-half of vision regarded as loss of one-fourth of earning power); *Koenig v. International Harvester Co.*, 2 Wis. Ind. Com. Rep., 54 (1913) (loss of one eye equivalent to loss of 15 per cent of earning capacity); *Legee v. Lacy Mfg. Co.*, 1 Cal. Ind. Acc. Dec., 133 (1913) (loss of one eye presumed to affect power in labor market); *Jacobs v. American Steel & Wire Co.*, 1 Conn. Comp. Dec., 100 (1914) (for inability to work full time, as result of eye being struck by a wire, one-half difference between present and past wages allowed); *Linnell v. North Star Mines Co.*, 1 Cal. Ind. Acc. Dec., 175 (1913) (loss of 15 per cent of vision of one eye, with bloodshot condition readily apparent;) *Dakin v. Employers Liability Assurance Corp.*, 4 Mass. Work. Comp. Rep., 46 (1915) (loss of eye of man sixty-three years old, from flying up of a piece of "spike set" when struck, with consequent nervous condition and inability to secure work).

[1] *Hirschkorn v. Fiege Desk Co.*, 184 Mich., 239, 150 N. W., 851 (1915) (loss of one-half of vision from removal of eye as the result of flying in of emery and of the later development of iritis); *Felker v. Wilson Body Co.*, Mich. Ind. Acc. Bd. (1914) (three-fourths of sight of eye destroyed from entry of splinter); *Gorski v. Kellerman*, 1 Ill. Ind. Bd. Rep., 412 (1915) (eye injured from falling of substance in cleaning of a cupola); *In re Holden*, Op. Sol. Dep. Lab., 1915, p. 268 (compensation for loss of eye allowed only for time of physical incapacitation).

[2] *Boscarino v. Carfagno & Dragonette*, 220 N. Y., 323, 115 N. E., 710 (1917); reversing 175 App. D., 286, 161 N. Y. Supp., 562 (loss of 80 per cent of sight in one eye from a chip of lead thrown from a water main being caulked, but field of vision normal for most work); *Clooney v. Crescent Glass Specialty Co.*, 37 N. J. Law Journ., 82 (1914) (blurring of vision, necessitating the wearing of glasses, besides other injuries, alleged to have been caused by fumes of acid on removal of rubber cork from a carboy); *Collins v. Connor Land & Lumber Co.*, 3 Wis. Ind. Com. Rep., 59 (1914) (development of neurasthenia, without impairment of organs of sight); *Stampick v. American Steel & Wire Co.*, 1 Conn. Comp. Dec., 474 (1915) (with 1/10 or 1/15 of vision remaining in one eye, sight not regarded as fully lost).

question was the actual cause, this being especially the case if it appears that the complainant had been suffering from an eye malady or from a systemic disorder liable to have a pronounced influence.[1] Under the more liberal attitude, compensation will be permitted whenever it appears clear that the accident is the proximate cause, or that

[1] *Guardian Casualty & Guaranty Co. v. Costillo*, 1 Cal. Ind. Acc. Dec., 221 (1914) (eye of rivet naker, already with trachoma, injured by a burst of flame from forge); *In re Leware*, 1 Ohio Ind. Com. Rep., 100 (1914) (eye already with trachoma, injured by striking of piece of steel from machine); *Fountain v. Detroit & S. L. R. Co.*, Mich. Ind. Bd. Rep. (1914) (development of atrophy of optic nerve one month after lodging in eye of sliver of wood regarded as result of constitutional disease); *Wilson v. Cheney Bros.*, 1 Conn. Comp. Dec., 66 (1914) (atrophy of optic nerve regarded as due to previous cataract, and not to striking by shuttle of a loom); *Taddei v. Schmitz's Estate*, 2 Cal. Ind. Acc. Dec., 566 (1915) (loss of sight in one eye regarded as due to systemic disease, and not to splashing into it of hot grease, there being no evidence of burns on or about the eyes); *Lohrke v. Benecia Iron Works*, 1 Cal. Ind. Acc. Dec., 10 (1914) (detachment of retina regarded as due to natural causes, and not to sneezing and blowing of nose in ridding it of emery dust inhaled during work); *Crouch v. Ritter*, 2 Cal. Ind. Acc. Dec., 693 (1915) (temporary blindness primarily due to hemorrhagic spots in the retina, but precipitated by exposure to intense heat, held to be chargeable to natural causes); *Beauchamp v. Chanslor-Canfield Midway Oil Co.*, 2 Cal. Ind. Acc. Dec., 485 (1915) (compensation allowed only for continued disability for injury to eye, already with trachoma, from blowing in of cement dust); *Iris v. Massachusetts Employees Insurance Assn.*, 1 Mass. Work. Comp. Rep., 397 (1913) (compensation allowed only for blow to eye from door of a boiler in rising from a stooping position, and not for ensuing iritis, there having already been cataract); *Marvin v. New Amsterdam Casualty Co.*, 2 Cal. Ind. Acc. Dec., 966 (1915) (already gonorrhea); *McKenna v. Massachusetts Employees Insurance Assn.*, 4 Mass. Work. Comp. Rep., 574 (1915) (removal of eye necessary from already existing tumor, and not from striking by piece of galvanized plate); *Evans v. Aetna Life Insurance Co.*, 4 Cal. Ind. Acc. Dec., 448 (1916) (splashing of wet concrete into eye, already suffering from trachoma); *Diebels v. Aetna Life Insurance Co.*, 3 Cal. Ind. Acc. Dec., 351 (1916) (total blindness from toxic amblyopia held not to be due to explosion in a moving picture plant, the sufferer having been addicted to the use of wood alcohol and tobacco, and already having syphilis); *Embree v. Western Pipe & Steel Co.*, 4 Cal. Ind. Acc. Dec., 279 (1917) (injury to eye regarded as due to already existing cataract, and not to alleged electric flash); *Wilkie v. Thos. Forman Co.*, Mich. Ind. Acc. Bd. Rep. (1913) (dust from machine in eye, sore eyes already existing); *Fidelity & Casualty Co. of New York v. Industrial Board*, 3 Cal. Ind. Acc. Dec., 203 (1916) (eyes already injured not made worse by exposure to vapors of wood alcohol); *Glass v. American Mutual Liability Insurance Co.*, 4 Mass. Work. Comp. Rep., 171 (1915) (loss of eye not due to contact with a certain dye of weak character); *Bobell v. Massachusetts Employees Insurance Assn.*, 4 Mass. Work. Comp. Rep., 610 (1915) (splashing of molten metal into eye already with syphilis); *Dameron v. Paine Lumber Co.*, 4 Wis. Ind. Comp. Rep., 34 (1915) (irritant in eye already suffering from glaucoma); *Stanich v. Oliver Mining Co.*, Bull. Minn. Dept. Lab. and Ind., Aug., 1916, p. 38 (splashing of dirt or water, while drilling, into eye already with trachoma); *Eldridge v. Employers Liability Assurance Corp.*, 2 Mass. Work. Comp. Rep., 639 (1914) (no additional compensation for destruction of remaining one-tenth of vision in one eye by striking of a spindle, with operation likely to be availing only on loss of other eye).

it has aggravated or rendered incurable a previous trouble.[1]

A question of special concern is whether a person who happens already to be blind in one eye is, on the loss of the second, entitled to compensation as for total blindness. On this there is sharp disagreement. One view is that an employee taken into service is accepted just as he is and for

[1] *Estate of Beckwith v. Spooner*, 183 Mich., 323, 149 N. W., 971 (1914) (injury from splashing of molten metal into eye, despite claim of a previous operation for cataract, and of present senility); *Moeller v. Bareda Mfg. Co.*, 1 Ill. Ind. Bd. Rep., 66 (1915) (injury from chip from chisel, despite claim of existing cataract); *Selig v. Southern California Edison Co.*, 2 Cal. Ind. Acc. Dec., 988 (1915) (injury from gravel switch, despite claim of existing tuberculosis); *Gurney v. Los Angeles Soap Co.*, 1 Cal. Ind. Acc. Dec., 12 (1914) (hemorrhage of vitreous portion of eye held to be result of unloading and emptying heavy barrels of cotton seed oil or of the splashing of the liquid, despite extraordinary blood pressure of the injured person); *Kinstanski v. Illinois Steel Co.*, 1 Ill. Ind. Bd. Rep., 204 (1915) (loss of eye from spark from a "cold saw," despite existence of old injury); *Anderson v. Kurtz-Action Co.*, 1 Ill. Ind. Bd. Rep., 207 (1915) (loss of eye from striking of a piece of wood, though already weak); *Margolin v. Union Hardware Co.*, 1 Conn. Comp. Dec., 334 (1915) (award for loss in earning power from injury to already weakened eye); *Catron v. Wood Oil Co.*, 1 Ky. Work. Comp. Rep., 48 (1917) (85 per cent of vision being lost from a previous accident, compensation allowed for loss of remainder from breaking of stones); *Puridzy v. Winchester Repeating Arms Co.*, 1 Conn. Comp. Dec., 420 (1915) (for loss of one eye and sympathetic irritation in other already weakened, compensation allowed for former, and development to be awaited in respect to latter); *Great Northern Ry. Co. v. King*, 165 Wis., 159, 161 N. W., 371 (1917) (for loss of sight in one eye, already impaired, from a splinter from an axe in the breaking up of coal, compensation allowed on basis of 50 per cent of diminished vision); *Jamezij v. American Mutual Liability Insurance Co.*, 1 Mass. Work. Comp. Rep., 184 (1913) (loss of remaining one-half of sight in one eye regarded as its total loss); *Purchase v. Grand Rapids Refrigerator Co.*, 194 Mich., 103, 160 N. W., 391 (1916) (due compensation for loss of already reduced vision of an eye, though earning power but temporarily affected); *Shields v. Miller*, 2 Cal. Ind. Acc. Dec., 1032 (1915) (inflammation from dropping of creosote into eye regarded as proximate cause, despite lodging therein of piece of steel five years before); *Boyd v. Young Men's Christian Assn.*, 3 Cal. Ind. Acc. Dec., 62 (1916) (knocking down by a swinging door regarded as proximate cause of total blindness, developed from "hysterical blindness"); *McGrath v. City of San José*, 1 Cal. Ind. Acc. Dec., 391 (1915) (previous slight inflammation of eyes held to be aggravated by heat and smoke at a fire); *Lawicke v. Peabody Coal Co.*, 1 Ill. Ind. Bd. Rep., 393 (1914) (injury from pterygium aggravated by excessive sulphur in a mine); *Fleming v. Massachusetts Employees Insurance Assn.*, 2 Mass. Work. Comp. Rep., 411 (1914) (previous bad condition aggravated by use of tooth pick to remove emery flung from milling machine); *Dyer v. Baumgardner Junk Yard*, 1 Md. Work. Comp. Cas., 294 (1916) (incipient cataract precipitated by striking of eye by metal cleat in work on automobile). The loss of an eye affected with glaucoma, the sight of the other being already gone, is regarded as precipitated from being struck by an automobile; but as total blindness would in any event have occurred within a year, compensation is made accordingly. *Cousins v. Hanlon*, 4 Cal. Ind. Acc. Dec., 97 (1917). See also *Duprey's Case*, 219 Mass., 189, 106 N. E., 686 (1914); *Industrial Commission v. Johnson* (Col.), 172 Pac., 422, 16 N. C. C. A., 350 (1918) (loss of eye already weakened from trachoma).

whatever work he is capable, and that he may therefore lay claim to the full benefits of the law if rendered totally disabled.[1] The other view is that when the employer forms the engagement, he, being aware of the situation, acts with due regard to his own liability, and hence may be held only for the last injury; or, in other words, that the final disability may be considered as due to two separate accidents, with only the second of which he may be chargeable—such being especially the case where the statute expressly declares that an injury creating, in combination with a previous one, total disability, is to be regarded as but partial.[2]

A similar issue arises in respect to the impairment of vision subsequently to the accident in question, other causes having been set in operation to affect it. If it ap-

[1] "The employee when he entered the service of the subscriber [the employer], had that degree of capacity which enabled him to do the work for which he was hired. That was his capacity. It was an impaired capacity as compared with the normal capacity of a healthy man in the possession of all his faculties. But nevertheless it was the employee's capacity. It enabled him to earn the wages which he received. He became an 'employee' under the Act, and was thereby entitled to all the benefits conferred upon those coming within that description. The Act affords a fixed compensation for a limited time 'while incapacity for the work resulting from the injury is total.' It establishes no other standard. It fixes no method for dividing the effect of the injury and attributing a part of it to the employment and another to some preëxisting condition, and it gives no indication that the legislature intended any such division. The total capacity of this employee was not so great as it would have been if he had had two sound eyes. His total capacity was thus only a part of that in the normal man. But that capacity, which was all he had, has been transformed into a total incapacity by reason of this injury. That result has come to him entirely through the injury." *In re Branconnier*, 223 Mass., 273, 111 N. E., 792 (1916). See also *Morrison v. Fidelity & Casualty Co. of New York*, 2 Mass. Work. Comp. Rep., 594 (1914) (one eye already lost through cataract, and the other later through strain from lifting); *In re J. & P. Coats* (R. I.), 103 Atl., 833 (1918) (loss of second eye from fall from ladder).

[2] *State v. District Court of Cass County*, 129 Minn., 156, 151 N. W., 910 (1915); *Rouner v. Columbia Steel Co.*, 2 Cal. Ind. Acc. Dec., 251 (1915); *Blaes v. E. W. Bliss Co.*, 177 App. D., 370, 163 N. Y. Supp., 722 (1917)(1/20 of vision after injury to second eye); *Nichols v. Max Pollock Co.*, 1 Conn. Comp. Dec., 74 (1914) (allowance for pain in having removed eye first injured, it being without useful vision); *Weaver v. Maxwell Motor Co.*, 186 Mich., 588, 152 N. W., 993, L. R. A., 1916B, 1276 (1915) (loss of second eye regarded as partial disability). An award for the impairment of sight in one eye from the striking of a piece of steel, on the ground that employers might thereafter be unwilling to engage a man in such condition, was disallowed, it being held that there was no evidence to show this discrimination. *International Harvester Co. v. Industrial Commission*, 157 Wis., 167, 147 N. W., 53, Ann. Cas., 1916B, 330 (1914).

pears that the consequences have a direct connection with it, are definite, and are not too remote, an award will be directed; [1] otherwise, not.[2] Akin to this is the consideration of the element of time involved when the results of an injury fully manifest themselves at a later period. Here a generally liberal view is taken; and time is held to relate back to the original occurrence, or the putting in motion of harmful forces, the whole award accruing at the culmination of the disability.[3]

Finally, there are to be interpreted various terms of the

[1] *Hunnewell's Case*, 220 Mass., 351, 107 N. E., 934 (1915) (award both for origina injury to the eye and for neurosis later induced); *In re Sponatski*, 220 Mass., 526, 108 N. E., 466, 8 N. C. C. A., 1025 (1915) (development of insanity, resulting in suicide, from splashing into eye of molten metal); *Grant v. Narlian*, 1 Cal. Ind. Acc. Dec., 482 (1914) (subsequent ulceration from foreign substance in eye); *Craig v. Receivers of Père Marquette R. Co.*, Mich. Ind. Acc. Bd. (1914) (development of choroiditis in one eye, with reduction of sight to one-half, from injury, being healed under treatment, from flying up of a piece of steel in resetting of a tire on an engine); *Riley v. Mason Motor Co.* (Mich.), 165 N. W., 745 (1917) (loss of eye from particle from emery wheel due to such particle, and not to subsequent treatment). Where an attempt was made by a fellow employee to remove by means of a match a particle of steel in the eye, from which gonorrheal affection later set in, this was regarded as the direct consequence of the original injury, but as the vision was with glasses reduced only to one-half, and without them to one-tenth, and earning capacity was not affected, no compensation was allowed. *Cline v. Studebaker Corp.*, 189 Mich., 514, 155 N. W., 519, L. R. A., 1916C, 1139, 6 N. C. C. A., 899 (1915).

[2] *McCoy v. Michigan Screw Co.*, 180 Mich., 454, 147 N. W., 572, 5 N. C. C. A., 455 (1914) (loss of eye from infection with gonorrhea on being rubbed after the striking by a piece of steel from a lathe machine); *Voelz v. Industrial Commission*, 161 Wis., 240, 152 N. W., 830, L. R. A., 1916A, 326 (1915) (claim that loss of eye of a plumber who in repairing a hot water basin cock from beneath had something fall into it and proceeded to rub it, and who two weeks later was found to have gonococcus, was due to original particle, regarded as but conjecture); *Cochran v. Fenton*, 1 Conn. Comp. Dec., 690 (1913) (continuous eye strain in embroidery work for several weeks not attributable to any particular time); *Boehme v. Owl Drug Co.*, 2 Cal. Ind. Acc. Dec., 529 (1915) (eyes of prescription pharmacist claimed to have been injured from poor working quarters and from fumes from chemicals); *Borgsted v. Shults Bread Co.*, 180 App. D., 229, 167 N. Y. Supp., 647 (1917) (almost total blindness from atrophy of optic nerve alleged to have been induced from fracture of ankle and consequent lowered resisting power, with already existing syphilis); *State v. District Court of St. Louis County*, 137 Minn., 435, 163 N. W., 755, L. R. A., 1917F, 1094 (1917) (loss of sight of eye from removal of particle of iron ore by means of match and handkerchief, with ensuing gonorrheal infection, regarded as accidental).

[3] *Johansen v. Union Stockyards Co.*, 99 Neb., 328, 156 N. W., 511 (1916) (injury to eye from splashing of hot tar mixture slight at first, but eventually destroying its sight); *Kalucki v. American Car & Foundry Co.*, 1 Mich. Ind. Rep., 390 (1916) (injury to eye not thought serious at first, but resulting in its loss eight months later); *Costa v. C. W. Blakeslee & Sons*, 1 Conn. Comp. Dec., 457 (1913) (injury believed at first to be inconsequential).

statutes in their application to particular cases. One of them is "accidents," it sometimes being necessary to decide what injuries are to be regarded as such.[1] Injuries from wood alcohol have been declared to be so included.[2] Next to be passed upon is whether the injuries in question have been brought about from acts or in occupations within the purview of the law. As to what may be considered as having occurred in the due course of employment or as having duly arisen out of it, a broad policy is usually adopted. Even though an injury has resulted more or less indirectly from the prosecution of a given task, yet if it has been in the general lines of the employer's business, and there is a clearly established connection, it will be regarded as sufficiently embraced.[3] If, however, such is

[1] Injury to the eye from the reflection of the sun from white rocks and sand is an "accident." *In re Kearney*, Op. Sol. Dept. Lab., 1915, p. 147.

[2] Permanent impairment of the sight of a sign painter who, accustomed to employ wood alcohol for the dissolving of dyes in an air brush, happened to use a large quantity, from the vapors of which atrophy of the optic nerve was induced, is an "accident," such not being confined to external, violent, and accidental injuries, but including unexpected injuries of gradual approach. *Fidelity & Casualty Co. of New York v. Industrial Commission* (Cal.), 171 Pac., 429 (1918).

[3] *State v. District Court of St. Louis County*, 129 Minn., 176, 151 N. W., 912 (1915) (loss of sight in one eye of employee whose duty it was to replace electric bulbs, from use of empty cartridge shell with unexploded cap, furnished by a fellow employee); *In re Hurle*, 217 Mass., 223, 104 N. E., 336, 4 N. C. C. A., 537, L. R. A., 1916A, 279, Ann. Cas., 1915C, 919 (1915) (loss of both eyes from acute attack of optic neuritis, caused by issuing forth of poisonous gases from holes cut from time to time in top of furnace, for purpose of noting whether fire was burning evenly); *Kobyra v. Adams*, 176 App. D., 43, 162 N. Y. Supp., 269 (1916) (loss of sight of eye of night watchman from blowing in of extraneous substances in closing of a window); *State v. District Court of Kaschiching County*, 134 Minn., 16, 158 N. W., 713 (1916) (eye of bartender struck by fragments of drinking glass thrown by a drunken customer); *In re Heitz*, 218 N. Y., 148, 112 N. E., 750, L. R. A., 1917A, 344 (1916); affirming 171 App. D., 961, 155 N. Y. Supp., 1112 (loss of one eye of a brewery driver in quarrel with a fellow worker over manner of doing work); *In re Thomas Mack*, 1 Ohio Ind. Comp. Rep., 7 (1914) (eye struck by pair of overalls thrown in fun); *Grimes v. Red River Lumber Co.*, 3 Cal. Ind. Acc. Dec., 66 (1916) (splashing of lye water); *Boessen v. Butterick Publishing Co.*, 4 N. Y. St. Dep. Rep., 367 (1915) (loss of eye from striking against obstacle in a dark place); *Milliman v. New England Casualty Co.*, 4 Mass. Work. Comp. Rep., 676 (1915) (loss of eye from flying up of pliers in adjusting belt); *Sullivan v. Raisch Improvement Co.*, 3 Cal. Ind. Acc. Dec., 257 (1916) (detachment of retina from chopping of wood to make fire to keep warm); *Morrison v. Los Angeles Ry. Co.*, 2 Cal. Ind. Acc. Dec., 18 (1915) (loss of eye of street car conductor in shooting by hold-up men); *Town of Colchester v. Brainerd*, 1 Conn. Comp. Dec., 286 (1914) (injury from cutting tree on highway); *Sedlock v. Carr Coal & Mfg. Co.*, 98 Kans., 680, 159 Pac., 9, L. R. A., 1917B, 352 (1916) (loss of eye of miner who on way to shaft in leaving work came into contact with a piece of slate from the roof, regarded

not the case, and the act is not really incidental to the discharge of duty, as, for instance, in fun or sport, or in a personal quarrel, no redress may be expected from the employer.[1] Whether the occupation involved is one which may be considered to be provided for in the statute, depends on the construction given by the courts.[2] The remaining

as in course of employment); *Markell v. Daniel Green Felt Shoe Co.*, 221 N. Y., 493, 116 N. E., 1060 (1917); affirming 175 App. D., 958, 161 N. Y. Supp., 1134 (eye struck by point of pencil in pocket of foreman during horseplay).

[1] *De Filippis v. Falkenberg*, 170 App. D., 153, 155 N. Y. Supp., 761 (1915) (loss of three-fourths of vision in one eye from striking of pair of scissors when looking through a crack on hearing a noise); *Shaw v. Massachusetts Employees Insurance Assn.*, 3 Mass. Work. Comp. Rep. 707 (1914) (compensation refused for injury from sand or dust in eyes of street car conductor while collecting fares, he being no more exposed than passengers); *Fishering v. Pillsbury*, 172 Cal., 690, 158 Pac., 215 (1916) (loss of eye from missile from a trick camera in hands of a fellow employee); *Ely v. M. S. Brooks & Sons*, 1 Conn. Comp. Dec., 390 (1914) (injury from piece of wire thrown in fun); *Pierce v. Boyer-Van Kuran Lumber Co.*, 99 Neb., 321, 156 N. W., 509 (1915) (loss of eye from small sticks thrown in a scuffle); *Clark v. Clark*, 189 Mich., 652, 155 N. W., 507 (1915) (eye of carpenter struck by piece of iron while engaged in a general fight); *Merle v. Pfaff*, 1 Md. Work. Comp. Cas., 42 (1915) (eye struck by piece of latch of an elevator broken in a practical joke); *Gorman v. Fidelity & Casualty Co. of New York*, 1 Mass. Work. Comp. Rep., 1 (1912) (loss of eye in personal quarrel); *In re Borin*, 227 Mass., 452, 116 N. E., 817 (1917) (loss of eye from piece of chisel in attempting to remove slats holding down window in room for boiling dye, another window being intended to be opened).

[2] *Boschetti v. Lucas & Lombarn*, 3 Cal. Ind. Acc. Dec., 39 (1916) (loss of sight in one eye from flying up of wedge driven in a stump for fire wood regarded as in farm work); *State v. District Court of St. Louis County*, 128 Minn., 43, 150 N. W., 211 (1914) (loss of eye in getting out of ties, poles, etc., regarded as work for lumber company); *Miller & Lux v. Industrial Commission*, 32 Cal. App., 250, 162 Pac., 651 (1916) (compensation for injury to carpenter in erection of a building on a ranch for the housing of employees, the construction of such for business purposes being authorized in charter); *Mann v. Locke*, 2 Cal. Ind. Acc. Dec., 433 (1915) (striking of eye by willow tree in clearing a levee to protect land from overflow not really in farm work); *Panama Pacific International Exposition v. Hooper*, 1 Cal. Ind. Acc. Dec., 430 (1914) (loss of sight of eye from scratching on a cypress tree in watering a lawn regarded as in horticultural work); *Garcia v. County of Los Angeles*, 3 Cal. Ind. Acc. Dec., 330 (1916) (compensation for injury to eye struck in breaking rock on a county road, though for a charitable purpose); *Johnson v. City of Ashland*, 5 Wis. Ind. Com. Rep., 4 (1916) (loss of eye from hot pitch in mixing gravel for city); *Duncan v. Parsons*, 4 Cal. Ind. Acc. Dec., 201 (1917) (no compensation for injury from striking of axe, employer being an independent one); *Tishler v. Frankfort General Insurance Co.*, 2 Mass. Work. Comp. Rep., 4 (1914) (compensation for loss of eye of carpenter, in work for independent contractor, from original employer); *Uphoff v. Industrial Board*, 271 Ill., 312, 111 N. E., 128, 13 N. C. C. A., 980 (1915) (loss of sight of eye of carpenter from the flying up of a hammer in the building of a corn shed for a farmer, not regarded as in farm work, nor as extra-hazardous); *Winfield v. New York Central & H. R. R. Co.*, 216 N. Y., 284, 110 N. E., 614, 10 N. C. C. A., 916 (1915); affirming 168 App. D., 351, 153 N. Y. Supp., 499 (injury from flying up of stone in tamping ties of an inter-State railroad regarded as within intra-State traffic when work clearly distinguishable); *Beckman v. J. W. Oelrich &*

decisions have chiefly to do with the consideration of the time or manner of making complaint.[1]

Son, 174 App. D., 353, 160 N. Y. Supp., 791 (1917) (no compensation for loss of eye from breaking of bottle containing peroxide in fastening wires over it, occurrence being in grocery business).

[1] *Duffy v. Town of Brookline*, 226 Mass., 131, 115 N. E., 248 (1917) (delay in giving notice of practical loss of eye from lifting an ash-barrel no bar to recovery if reasonable); *Smith v. Solvay Process Co.*, 100 Kans., 40, 163 Pac., 645 (1917) (notice of loss of eye from small piece of steel or rust not within time specified by law); *Palombo v. Selby Smelting & Lead Co.*, 3 Cal. Ind. Acc. Dec., 474 (1916) (report of injury from striking by hot slag from an explosion of a kettle not within time); *Amendolari v. Bocci*, 4 Cal. Ind. Acc. Dec., 303 (1917) (report of injury from piece of steel five months thereafter without corroboration); *Bloom's Case*, 222 Mass., 434, 111 N. E., 45 (1916) (knowledge of superintendent of injury from stone and a piece of steel regarded as sufficient); *Wills v. Hutchinson*, 1 Md. Comp. Cas., 179 (1915) (report to foreman of injury from emery wheel regarded as sufficient); *Marinaccio v. Flinn-O'Rourke Co.*, 172 App. D., 378, 158 N. Y. Supp., 715 (1916) (notice to employer's physician of injury from small stone from a paving block regarded as sufficient); *Troth v. Millville Bottle Works*, 86 N. J. L., 558, 91 Atl., 1031 (1914) (notice of employer to minor employee to apply only when sent also to parents); *Cianti v. Mt. Whitney Power & Electric Co.*, 1 Cal. Ind. Acc. Dec., 60 (1913) (release invalid); *Oliveira v. Aetna Life Insurance Co.*, 2 Mass. Work. Comp. Rep., 517 (1913) (no additional compensation because of alleged misconduct of employer on striking of eye by broken belt); *Hartford Accident & Indemnity Co. v. Reclamation District No. 900, Yolo County*, 3 Cal. Ind. Acc. Dec., 266 (1916) (insurance company not liable for injury from fragment of metal from a dredge in operation, the employee not being engaged by its insured); *In re McCarthy*, 226 Mass., 444, 115 N. E., 764 (1917) (agreement valid whereby $500 paid for loss of one-tenth of sight in both eyes, despite later blindness).

PART VI

ORGANIZATIONS INTERESTED IN THE BLIND

CHAPTER XLIII

PRIVATE ASSOCIATIONS FOR THE BLIND

Purposes and Scope of Work of Associations

In considering the work for the blind in connection with schools, libraries, home teaching, and other agencies, we have noticed that in time a number of them have come to extend their activities to a field beyond that for which they were originally planned. In the course of the performance of their several tasks it has been discovered that the wants of the blind were greater than could be attended to along one narrow line of effort, and that work begun for them must consequently be enlarged so as to affect them in other relations. In fact, there have been few organizations which have found themselves able to confine their activities to one form, but most have been constrained, owing to the peculiar and pressing needs of the blind, to undertake to minister to them on a broadening basis. From a consideration so developed have sprung up organizations better adapted to carry on such work. It has also happened that an interest has been awakened in the blind as a class from the placing of books or of concert tickets at the disposal of some, or from the providing of employment in individual cases, an interest which has led to the formation of a special body to engage in work of different kinds in their behalf. Again, it has occurred in some communities that, without any preliminary agency or stimulus to create a concern in the blind, but in response to the recognition of their general needs, societies have been organized to answer this call, with the mapping out beforehand, to a greater or less degree, of a certain field of endeavor.[1]

[1] It is probably library work which most often calls attention to the condition and needs of the blind, and results in the creation of associations for them. There is

In these several ways have come about associations for the welfare of the blind. They have been organized to minister to the blind generally and to afford assistance of various kinds. They sometimes start out with modest programs, which are expanded as their resources permit, and which may develop into far-reaching and comprehensive schemes of service.

To relate the several specific activities open to associations is to state nearly all that is possible in the way of special social service for the blind, including many of the forms of work which have been referred to in preceding chapters. An association may make a census of the blind in a given community, with a report of ages, causes of blindness, economic condition, educational attainments, fitness for industrial employment, and similar details; may keep a register of all the blind thus found; may prepare programs of work based upon individual and collective needs as disclosed by its examination; may as a further result of its acquaintance with the situation offer advice and suggestions of one kind and another; may secure library facilities; may see that reading matter is introduced into the homes; may inaugurate a system of home teaching; may establish a ticket bureau for concerts, lectures, and the like; may provide entertainments and outings; may assist in the formation of clubs of blind persons for their mutual benefit, culture, and enjoyment; may establish social centers, with special means for service; may endeavor to get blind children into the schools; may assist in securing compulsory education laws; may promote day schools in large cities if needed; may employ nurses for blind babies, and for the aged and infirm blind; may extend material relief in kind or in money as it may be required; may provide homes for the aged and infirm, especially for women; may establish training schools to give the blind industrial in-

only a short step, as has not a few times been demonstrated, from furnishing a reading room, to the supplying of a teacher in the home or to the engaging in of some other task, and the bringing into being of a regular society.

struction; may secure licenses or otherwise assist the blind in the conduct of a small business; may lend capital to set up blind persons in business or trade; may secure employment in general shops or in business establishments; may open workshops for a portion of the blind; may assist in the marketing of products made in shops or in individual homes; may promote measures for the prevention of blindness, including a campaign of education, the enactment of laws, and the establishment of clinics for the treatment of eye troubles; may coöperate with various educational, social, civic, philanthropic, and religious agencies for the benefit of the blind; may endeavor to acquaint the public with the real condition and needs of the blind; may assist in the creation of a public commission in order that recognition by the state may be given to the needs of the blind, and its power invoked in their behalf; and may perform other services as they may be found necessary or desirable.

It is not to be thought that all or most of the foregoing objects may in fact be accomplished in any but a small number of associations; but none the less they represent the activities which in one place or another it may be possible to carry on. The purposes of the New York Association for the Blind are thus expressed:

> To prevent unnecessary blindness; to help the blind to help themselves; to succor and relieve the ill, needy, and aged blind; to give the blind work, fun, and comfort.

The object of the Massachusetts Association for Promoting the Interests of the Adult Blind is:

> To initiate and promote practical movements in the interest of the blind; to render practical assistance to any blind person who cannot be helped by the Massachusetts Commission or the Perkins Institution.

The purpose of the Association of the District of Columbia is:

To establish a non-sectarian home for the blind in the District of Columbia, to promote the education and industrial training of the blind, to aid the needy and dependent blind, and to help them in becoming self-supporting.

The aims of the Cleveland Society are as follows:

The prevention of unnecessary blindness and the relief and treatment of all cases reported to the Society; the providing of literature for those adult blind who have not learned to read and who for any reason are unqualified for attendance at the State school for the blind; coöperation with the board of education in placing blind children in public schools; the maintenance of workshops where blind men and women are employed in weaving art fabrics and rugs, in caning chairs, and in making brooms and baskets; to serve as a bureau of information in matters relating to the blind, and of industrial aid to those blind people who are seeking employment along special lines.

The ends of the Missouri Association are:

The prevention of blindness; the conservation of eyesight; social service among the blind; home teaching of blind adults; and promotion of the employment of the blind.

The objects of the Pennsylvania Association are:

To act as a bureau of information and industrial aid; to establish and equip, and maintain one or more schools for industrial or agricultural training, and workshops for the employment of the blind; to devise a means for the sale and distribution of the products of such schools and plants and homeworkers; to provide industrial instruction for blind women in their own homes; to aid the poor and infirm blind who are not capable of learning a trade; to aid in the prevention of blindness; and to arouse the public to a clearer appreciation of the capabilities of the blind.

Indeed, so broad is the field and so many the opportunities in respect to the work of associations for the blind that it may well be doubted if there are in the world other organizations, considering the numbers involved, which in genuine service are qualified to do more for the happiness and uplift of a part of the human race.[1]

[1] In the consideration of all work for the blind, the services, though not of an "organized" character, of members of their immediate families, and to an extent of

Present Extent of Associations

There are, strictly speaking, two kinds of associations for the blind. One is composed of persons in various walks of life who, having become interested in the blind and their welfare, have united in an association for their benefit, employing an executive staff to carry on the direct work. The other is composed for the most part of actual workers for the blind who are engaged in different activities in their behalf. It is the first of these that is usually meant by the term "association"; and it is to it that we may devote our first attention. Such organizations, however, have various names: associations for the blind, associations to improve the condition of the blind, societies for the promotion of the interests of the blind, societies for the aid of the sightless, associations for the welfare of the blind, and the like.

With regard to the territory covered, the associations are of two classes: local or city associations, and State associations. The former confine their work in the main to a particular city, perhaps conducting their operations in a more intensive manner. The latter, affecting a larger area, are likely to come into touch with a greater number of blind persons, including those in remote sections. With the increasing interest in the blind, it is probable that both kinds will become more numerous, unless their work is anticipated to some extent by State commissions.[1]

The associations are, practically all of them, products of the twentieth century.[2] The initial organization for

their close friends also, are to have full recognition. It is the ministrations and attentions of these, day after day, and through life, practical, sympathetic, and faithful, which constitute help and comfort to a degree to be but little realized.

[1] Mention may be made in this connection of the American, British, French, and Belgian Permanent Blind Relief War Fund for Soldiers and Sailors who have been blinded in the European War, with headquarters in New York. It is to assist the blind in their present needs and to provide future training. To it have been made contributions of about a million dollars. On its gifts for work in the United States, see Chapter XLV.

[2] Not a few of the associations have come into being as the result of the efforts of women's clubs; while with others there has been aid from charitable organizations or social settlements. The Massachusetts Association owes its origin to the Women's Educational and Industrial Union of Boston.

the interests of the blind may be regarded as the Pennsylvania Home Teaching Society and Free Circulating Library for the Blind, which was created in Philadelphia in 1882, though its purposes, as its name implies, were limited. The first association, so called, with a general field, was that in Massachusetts, which was formed in 1903. The first city association was that in New York, created in 1905. Local associations are now found in many of the larger cities of the country: New York, Buffalo, Albany, Rochester, Syracuse, Troy, Elmira, Rome, Utica, Poughkeepsie, Glens Falls (New York), Jersey City, Newark, Trenton, Camden (New Jersey), Wilmington, Philadelphia, Wheeling, Raleigh, Cleveland, Cincinnati, Birmingham, Austin, Chicago, Grand Rapids, Milwaukee, Des Moines, Denver, San Francisco, Seattle, and other cities. State Associations have been founded in Massachusetts, Connecticut, Maine, New Hampshire, Vermont, New Jersey, Pennsylvania,[1] Maryland, District of Columbia, North Carolina, Louisiana, Indiana, Missouri, Michigan, Wisconsin, Minnesota, Iowa, Kansas, Nebraska, Utah, California, and possibly other States.[2] Some of the State associations have local branches. Several organizations, both local and State, have ceased to exist.[3] It may be added that other private organizations for the blind, as the publishers of periodicals in their behalf, engage in certain forms of service, especially in the extending of advice and in efforts to secure employment.

Direction and Means of Support of Associations

The associations are in general open to all persons interested on the payment of the prescribed dues for membership. A governing or directing board is elected, to

[1] The association centers mainly in Pittsburgh, with branches in other cities.

[2] In New York City and in Massachusetts associations for mothers or other relatives of blind children have been formed.

[3] For a directory of organizations for the blind, see American Encyclopedia of Ophthalmology, 1916, ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916.

which are entrusted the duties of management. This board may be composed of five or seven members, or of several times this number. It often contains one or more blind persons.

The means for support of the associations comes in the main from two sources: the dues and fees of members; [1] and ger eral voluntary contributions, which may sometimes be throu gh entertainments given to raise funds. Annual receipts range from one thousand dollars or thereabouts in the case of the smaller bodies, to perhaps forty thousand in the case of the largest. Several of the associations also have endowment funds.[2] Aside from financial donations, there are frequently extended favors of not a few kinds.[3]

Results of the Activities of Associations

The activities of certain associations have already to a large extent been indicated in what has been said of their work in connection with efforts for the prevention of blindness, in home teaching, in industrial employment, and in other forms of service for the blind. Some associations carry on a greater number of activities, or reach a greater number of the blind, than do others. Some have considerable resources, are highly organized, and engage in various undertakings; others have meagre equipment, and affect the blind in smaller degree. By different ones not a little has been done to call the attention of the public to the needs of the blind, and to secure important measures for their benefit, including now and then the creation of commissions. With other special agencies for the blind, and with general agencies affecting them, there has as a rule been endeavor to coöperate. In a number of instances

[1] Annual dues are most often one or two dollars, though in some cases they may go much higher. There are corresponding dues for contributing, sustaining, or life members.

[2] The New York Association has an endowment fund of more than one-half million dollars, and property worth almost as much.

[3] These may be gifts in kind, the granting of newspaper space, or other assistance.

associations have won for themselves an acknowledged place among philanthropic organizations.[1]

General Bodies with Special Departments or Activities for the Blind

In certain general bodies, religious, civic, or philanthropic, there has been an interest taken in the blind of a more or less comprehensive nature. In a few cases special departments have been created concerned directly in work for them, while in others particular attention of some kind has been given.

Many individual churches have blind persons as members, and seek to serve them in one way or another, though without attempting special operations for them as a class.[2] In the Protestant Episcopal Church there was organized in Philadelphia in 1903 the Society for the Promotion of Church Work among the Blind, the work of which in embossing books of the church service has been referred to. The Federation of Catholic Charities has a special committee on work for the blind, as have Catholic charitable bodies in some of the large cities; while certain organizations of women, as the Children of Mary and the Circle of St. Margaret's Daughters, render special aid.[3] By the National Council of Jewish Women efforts have been made to discover blind persons and to render them service,

[1] Certain of the associations are in possession of special buildings, or centers, for their work, several also having summer homes. By the Massachusetts Association there is maintained a social and industrial center for women, and a social center for men. To the center conducted by the New York Association has been given the name of "lighthouse." There are also "lighthouses" in a few other cities. The forms of service rendered, and the number of persons affected, by the New York Association in 1917 were as follows: clinical examination, 227; employment in industrial establishment, 109; instruction to women, 101; instruction in music school, 69; instruction in tuning, 6; instruction of children in summer school, 53; entertainment furnished at summer home, 332; non-industrial instruction, 72; membership in clubs, 173; and social service, 539 (including advice or information, 109; reference to other agencies, 267; financial relief or loans, 152; assistance in business ventures, 39).

[2] On church work for the blind, see Proceedings of American Association of Workers for the Blind, 1911, p. 84.

[3] See Proceedings of National Conference of Catholic Charities, 1912, p. 203.

some of the local branches, as in New York and Pittsburgh, having special committees.[1] By branches of the Young Men's Christian Association attempt has sometimes been made to visit the blind in their homes, to furnish guides for them, and otherwise to help them.[2] With such organizations as the Shut-in Society an important object is often that of reading to the blind and of relieving them in other ways.

In a certain number of women's clubs and social service leagues efforts are made to reach and assist some of the blind, which is also true of a few civic clubs of other kinds.[3] Charitable societies sometimes include the blind in one of their departments or bureaus. In Brooklyn, New York, the Bureau of Charities and the Association for Improving the Condition of the Poor each have departments for the blind, the result of a fund given expressly for the benefit of the blind, which permits the doing of a considerable amount of social work for them.[4] Social settlements and kindred organizations also occasionally prove of service of one form or another to the blind. Museums and similar institutions sometimes lend special facilities for attendance by the blind. Boy scouts and camp fire girls at times render assistance by acting as guides. Now and then there have been special donations for the blind of a particular community.[5]

[1] See Proceedings of National Conference of Jewish Charities, 1908, p. 28; *Jewish Charities*, April, 1914; v., 1915, p. 302; National Council of Jewish Women, Plan of Work of Committee on the Blind, 1911. In New York there is also a Jewish Guild for the Blind.

[2] See *Association Men*, May 1, 1908.

[3] Notable work has been done by some of the women's clubs, especially in certain cities of different States, where assistance has been rendered in the marketing of the goods of the blind. Worthy of particular mention also is the labor of the Women's Civic Club of Chicago in its Philanthropic Department, approaching in several respects the work of a regular association.

[4] These organizations were each given in 1912 the sum of $466,417, known as the Fox Fund, which was about one-half of a bequest, "a substantial part" of which is to be "used for the relief and aid of crippled children and the blind." In 1914 a building was given to the Bureau of Charities as headquarters for work. See Report of Bureau of Charities, 1014, p. 65; 1915, p. 27; Report of Association for Improving the Condition of the Poor, 1915, p. 14; *Outlook for the Blind*, viii., 1914, p. 86. See also M. E. Richmond, "Social Diagnosis," 1917, p. 420.

[5] In New Hampshire a gift of $80,000 has been made for "the aid, support, main-

Associations of Workers for the Blind

Organizations composed of workers for the blind, that is, composed of persons directly engaged in some field of activity in their behalf, and including both the sighted and the blind, consist of two national bodies and of several local or State federations. The main purpose of the last named is to give the members an opportunity for mutual acquaintance, and to aid in promoting measures of common interest. Organizations of this character have been formed in New York, New Jersey, Missouri, Michigan, Nebraska, and other States.

The two national bodies are the American Association of Instructors of the Blind and the American Association of Workers for the Blind.[1] The former was created in 1853, though formal organization was not effected till 1871.[2] As the name implies, it is composed of persons whose immediate business is the teaching of the blind. Its meetings are held biennially in the even years.[3] The American Association of Workers for the Blind began its existence as such in 1905, developing from a society of blind persons formed in 1895.[4] Its membership includes both instructors

tenance and education" of the indigent blind, which is held in trust by the State, and the sum of $3,750 granted annually. In Minnesota there has been a donation of $18,000 for the benefit of the blind. In Philadelphia there was organized in 1909 what is known as the Blind Relief Fund, one or two thousand dollars being collected each year.

[1] In both organizations Canada is included. There is also an International Conference on the Blind, and an International Congress for Ameliorating the Lot of the Blind, in both of which there have been representatives of the United States. See Report of United States Commissioner of Education, 1911, p. 598.

[2] Educators of the blind are represented in the National Education Association, in Department XVI, or the Department of Special Education, which includes instructors of the deaf also. It was organized in 1897, and until 1902 embraced as well instructors of the feeble-minded.

[3] A meeting of principals and teachers was held in New York in 1853, when fourteen schools, or practically all then in existence, were represented, the main purpose being to petition Congress to grant a printing subsidy and other aid for the blind. At this meeting it was called "convention." The gathering in 1871 was largely to consider the question of a uniform type. See Report of Perkins Institution, 1854, p. 20; New York Institute, 1871, p. 21; *Mentor*, ii., 1892, pp. 22, 263; *Outlook for the Blind*, ii., 1908, p. 61.

[4] This body had its origin in an association of graduates of the Missouri School in 1895, who were interested in securing provision for the higher education of the blind,

of the blind and workers for them in various capacities, both with and without sight, other persons interested in the welfare of the blind being also admitted. Under its purview come all phases of work for the blind. Its meetings are held biennially also, in the odd years. Occasionally there have been joint sessions of the two bodies.[1]

Publications in Ink Print Devoted to the Interests of the Blind

Publications in ink print in the United States devoted to the interests of the blind have, as we might suppose, been rare. The one important periodical now published is "The Outlook for the Blind," a quarterly magazine, which was established in 1907. It is issued under the auspices of the Massachusetts Association for the Blind, the American Association of Instructors of the Blind, and the American Association of Workers for the Blind, with a supervising board representing schools and other organizations. It is concerned with all that pertains to the interests of the blind, and constitutes a record of the present work being done for them.[2] There have been other periodicals in ink print attempted, most often monthlies, and usually but short lived, either at schools for the blind, or by blind persons.[3]

the association being known as the Missouri National College Association for the Blind. In 1896 it was enlarged to include graduates of other schools, and its name was changed to the American Blind People's Higher Education and General Improvement Association. Its greatest support was found in the States of Missouri, Kansas, Iowa, Illinois, Indiana, Ohio, Michigan, South Carolina, Colorado, California, Oregon, and New York. Meetings were held in Missouri in 1896, 1897, and 1898, and in Kansas in 1899. In 1903 a meeting was held in Chicago, at which several representatives of schools for the blind were present, when the plan of a larger organization was broached. See Bulletin of Missouri National College Association for the Blind, 1895; Supplemental Bulletin, 1897; *Problem*, i., 1900, p. 10; Proceedings of American Association of Workers for the Blind, 1905, p. 48; 1907, p. 41; 1911, p. 14; *Boston Transcript*, Aug. 29, 1907.

[1] In several States, as well as in several cities, there are conferences from time to time of workers for or instructors of the blind.

[2] Publication was first directed by the Massachusetts Association, remaining so until 1913. On the need of such a periodical, see Proceedings of American Association of Instructors of the Blind, 1896, p. 56; 1912, p. 31.

[3] An important publication was "The Mentor," by the alumni of the Perkins

Organizations Composed of Blind Persons

In organizations composed largely or entirely of blind persons, there is manifested the deep-seated human desire for mutual comradeship due to a common affliction. There are felt by the blind to be problems which can be known and discussed only in a way possible to themselves, while in their contact with one another there is found an understanding and a sympathy not to be met among others.[1] Objection is sometimes raised against the "clannishness" which may result from such intercourse; but after all the harm capable of being done is small, while the satisfaction rendered is considerable. The meetings, furthermore, are hardly likely to be of sufficiently frequent occurrence to cause very great concern.[2]

Such organizations have not on the whole been nu-

Institution from 1891 to 1895, which contained much matter of general interest regarding the blind. Other publications have been "The Lens," at the Perkins Institution, 1903–1905; "The Mistletoe," at the Iowa School, 1880; "Institution News," at the Texas School, 1892; and "The Orphans' Messenger and Advocate of the Blind," at St. Joseph's Home, 1899. At the Ohio School "The Ohio Harp" was begun in 1904; and at the California School, "The Stylus" in 1907. Occasionally there have been "annuals" published by graduating classes. In the papers published in "dual schools," there are often departments for the blind. Papers by blind persons have also been few. In Cincinnati in 1915 was begun "The Globe," published weekly; and in St. Louis, "The World of the Blind," published monthly by the United Workers for the Blind of Missouri. By the Blind People's Higher Education and General Welfare Association there was issued, besides occasional publications, "The Weekly News-Letter" in 1897, and "The Problem" from 1900 to 1903 (on its purpose, see *Problem*, i., 1900, p. 1). At the Columbia Polytechnic Institute for the Blind at Washington, D. C., have been published "The Sunless World," 1897; "The Pioneer Herald," 1900; "Talks, Tales, and Public Opinion," 1897–1911; "Voices from Darkland," 1912–1916; and "Voices," 1917–1918. In 1879 at Concord, Michigan, was begun "Our Reporter," which in 1880 was removed to Little Rock, Arkansas, continuing till 1881. Papers published by blind persons often contain matter of general interest, but are in the main confined to the peculiar problems of the blind, especially those relating to industry, pensions, and the like. The subscription price is usually one dollar a year, and occasionally more. By several of the associations for the blind occasional bulletins have been published. By the San Francisco Association "The Beacon" was begun in 1917, at an annual charge of $1.

[1] Such societies rarely attain the strength of those of the deaf.

[2] On these societies, see *Mentor*, i., 1891, p. 141; Proceedings of American Association of Workers for the Blind, 1909, p. 29; Constitution and By-laws of New York Adult Blind Aid Association, 1877; Constitution of Maine Fraternal Association of the Blind, 1908; J. W. Welch, "Abilities and Achievements of the Blind," 1905; bulletins of Missouri National College Association for the Blind, and of American Blind People's Higher Education and General Welfare Association.

merous, while their membership has usually been but limited.[1] In certain States there are State-wide bodies, as in Pennsylvania, Maryland, District of Columbia, Maine, Indiana, Kentucky, Michigan, Iowa, and a few other States.[2] Their work is accomplished mainly by correspondence, with but an occasional meeting. Most of them are composed of graduates of the State school, often being in fact little more than alumni associations. Formal alumni bodies, in addition, are in connection with the Perkins Institution, the Pennsylvania Institution, the Western Pennsylvania Institution, and the schools in Ohio, Indiana, Illinois, Missouri, Iowa, Wisconsin, North Dakota, South Carolina, Texas, and other States. With several of these associations attempts are sometimes made to find employment for the blind, to provide loans for those starting out in an independent business, or otherwise to render aid.

In some of the larger cities there are one or more societies or clubs of the blind, usually of blind men, which are more compact in their organization and more specific in their purposes than are the State associations. They are formed for the mutual culture and improvement of the members, keeping alive also to all questions likely to affect the blind as a class.[3] Some of them have benefit features, with the payment of a certain amount in case of sickness, disability, or death.[4] In none of the societies is the membership

[1] In a few cases there are separate organizations for men and for women. In a number persons with sight may become associate members. Some of the societies, both State and local, have been instrumental in securing industrial homes, in promoting pension legislation, and in initiating other measures affecting the blind. At times there have been attempts to influence political action.

[2] Meetings are usually held once a month. Dues are small, never exceeding a few dollars a year, and often being but one or two. Now and then a club is the recipient of a donation. Funds are also sometimes raised by means of entertainments.

[3] Where benefit features are allowed, the amount for sickness is usually $3 or $4 a week, continuing for six weeks, or perhaps longer, and for burial expenses from $30 to $50. Loans are sometimes made to the deserving.

[4] The first of these organizations seems to have been the Friedlander Union of Philadelphia, formed in 1871. For a list of societies of the blind, see American Encyclopedia of Ophthalmology, 1916, ix., p. 6419; C. F. F. Campbell and M. D. Campbell, "Institutions for the Blind in America," 1916.

large, only an exceptional one having as many as a hundred, and most considerably fewer.

NOTE TO CHAPTER XLIII.—On associations for the blind, see *Charities*, xii., 1904, p. 62; Louis Stricker, "Blindness in Hamilton County," 1918, pp. 65, 100; Cleveland Society for the Blind, "The Blind in Cleveland," 1918; Proceedings of American Association of Workers for the Blind, 1907, p. 41; Proceedings of American Association of Instructors of the Blind, 1910, p. 59; *Charities and the Commons*, xv., 1906, p. 610; xvii., 1906, pp. 405, 417, xix., 1907, p. 1100; *Outlook for the Blind*, i., 1907, p. 121; *Coöperation*, viii., 1908, p. 66; *Delineator*, lxvii., 1906, p. 539; *Outlook*, lxxxv., 1907, p. 782; *Modern Hospital*, ix., 1917, p. 201; *Problem*, i., 1900, pp. 81, 278; ii., 1901, p. 85; *Century Magazine*, lxxxviii., 1914, p. 353; *McCall's Magazine*, June, 1914; *Young Women's Journal* (Salt Lake City), xx., 1909, p. 177; *Women's Magazine* Nov., 1907; *Leslie's Weekly*, Feb. 7, 1907; *Scientific American*, cviii., 1913, p. 448; Report of New York Association, 1907, p. 8; Report of Massachusetts Association, 1910, p. 6; Proceedings of New Jersey Conference of Charities and Correction, 1908, p. 216; Proceedings of Pennsylvania Conference of Charities and Correction, 1901, p. 142; Ohio Bulletin of Charities and Correction, xiv., 1908, 2, March, p. 91; Proceedings of First International Conference in America on the Welfare of the Child, 1908, p. 306; Proceedings of International Conference on the Blind (England), 1914, p. 466; Report of Michigan Employment Institution for the Blind, 1912, p. 42; Report of Louisiana School, 1916, p. 33; District of Columbia Association, Souvenir Year Book, 1914; New York Association, Handbook of Blind Workers Exhibition, 1911; Report of Social Service Commission, Committee on the Blind, St. Louis, 1911; Florina Lasker, "Care and Treatment of the Jewish Blind in the City of New York," 1918; *Lancet-Clinic*, cviii., 1912, p. 172; *Cleveland Plain Dealer*, June 9, 1909; *New York Sun*, Jan. 31, 1909; *New York World*, March 21, 1909; *Chicago Record-Herald*, June 30, 1912; *San Francisco Bulletin*, Jan. 5, 1918. See also reports of several associations.

CHAPTER XLIV

PUBLIC COMMISSIONS FOR THE BLIND

Objects and Plans of Commissions

After the entry of private associations into the field of general usefulness to the blind, we might expect in time the arrival also of some analogous public agency, which in the present day would be likely to take the form of a commission. Associations have in fact rendered a two-fold service. First, they have anticipated commissions and have pointed out the way for the activities of such bodies. Second, realizing the no less pronounced opportunity for action on the part of the state, they have frequently been instrumental in calling attention to the need and in securing the creation of commissions. For both the commission and the association there is abundant room in the sphere of aid for the blind, and each may be better off with the existence of the other. It has been found that the two can work hand in hand, each helping and supplementing the work of the other.[1]

Yet quite apart from the promptings exercised by the labors of private organizations, it would appear probable that commissions would in time have been called into being to deal with the peculiar problems of the blind, as has been demonstrated in an actually larger number of instances by their creation without any preliminary operations conducted by private bodies. As particular needs of the blind have been made manifest to the state, one agency after another, as we have shown in our preceding pages,

[1] An analogy exists in the work of a public department of charities and the ministrations of a private philanthropic organization. Now and then commissions have been instrumental in securing the formation of associations, especially in smaller cities.

has been put into requisition to meet them. In the end it has usually been realized that, for the greatest and most effective service, the different agencies might be coördinated or assimilated in a comprehensive scheme of work for the blind, and that the most feasible instrument therefor would be some specific public agency, which might act both as a central organization and as a kind of clearing house. Just as a private association denotes the concentration into one body of various activities on behalf of the blind, so a public agency represents the consummation of the state's provision for them.

As we have indicated, the form which a public agency for the blind would be most likely to assume at the present is that of the commission. State commissions have now become a recognized organ in the political action of many of the American Commonwealths, and whether or not they are to have a permanent place in their life, they have an acknowledged standing today. Their sphere and their influence have increased to a great degree since the beginning of the twentieth century, and for different affairs of the state they have been set up. As yet they may be regarded as rather a new feature in the work for the blind, and their operations are perhaps to be watched for a time as somewhat in the nature of experiments. However, there is little actual ground for questioning their success, and they perhaps have no less justification for existence than have commissions in other fields.

Commissions for the blind, then, are called into being by the circumstance which has run through all our preceding chapters, namely, that the blind are an element of the population peculiarly in need of oversight and assistance, that for due attention to them some form of public agent is appropriate and necessary, and that in many instances the only means available is that of the state. It possesses full power to take comprehensive action, while behind it are all the resources which go with public authority, together with the impressiveness of its sanction. Commissions are never

to be regarded as solving the problems of the blind: they do constitute a very material step in the right direction. Their very creation is evidence of the state's concern; and they serve to bring home to the public at once the needs of the blind and the importance which the state has attached to these needs.

The several activities which are open to a commission are in general the same as those which are possible to an association. Though some of these can perhaps best be done by one body, and some by the other, there is in the main no great difference beyond the fact that the commission carries with it all that is implied in the authority of the state.

The first practical task of the commission is the investigation of the condition of the blind of State-wide scope, which in itself is a measure of importance. In this way remote or isolated blind individuals may be found and their particular needs discovered. The results of such investigations as well as later acquired knowledge are to be preserved as an authentic register of the blind. With this as a basis the commission may maintain a bureau of information and advice for the assistance of the blind. It may next, in what order and to what extent it may see fit, undertake home teaching and the distributing of reading matter; make some form of industrial provision or offer some other form of industrial aid; see that all blind children are brought into school; look after the aged and infirm; extend certain relief; promote measures for the prevention of blindness; and conduct such other activities as may be found practicable — some of which may hardly be attainable otherwise. With the possession of permissive powers, allowing movements as they may appear desirable, rather than under strict directions, the work is likely to prove the more effective. The possibilities of the commission are in fact as yet only partly discovered, and in time results may be accomplished which are now but indistinctly seen.

In the actual development of commissions for the blind in the United States, it is found that they are not all called

by the name of "commission," though this is the title applied to most. Of later years especially, there has been, instead of the establishment of particular and distinct bodies, the creation of agencies in the form of special boards, sometimes an existing State board, perhaps of the same personnel as that of the directors of the State school for the blind. Such boards serve the purpose of commissions, and in fact are little else, though their formal powers may appear to be slightly less extensive. The reason for imposing upon the governing body of the State school the work of looking after the blind of the State generally, or for thus charging them with the tasks of a commission, no doubt lies in the fact that such a body is felt to be in the closest touch with the blind, to be best acquainted with their needs, and consequently most fitted to direct the work for them. This plan, none the less, while not without some advantages, is on the whole a questionable one. The duties of the schools for the blind are really of a distinct nature; and the concerns of the adult blind population should not be confused with the education of blind children. The tendency which we have noted, however, probably does not mean that special commissions are to leave the field, or to give way to the newer arrangement, but only that for the time being some such makeshift has appeared to be more desirable or more feasible than the creation of a separate commission.

Commissions for the blind, so far as they have been established, have been of two kinds: temporary, or special, and permanent. The object of the former, which may perhaps serve with but little appropriation of funds, has chiefly been to investigate the condition of the blind, and to submit a report in respect thereto, with appropriate recommendations, and sometimes also to administer limited relief. After the fulfilling of this task, they have ceased to exist. Permanent commissions, on the other hand, not only make due inquiry into the condition of the

blind, but formulate programs based upon their discoveries, and continue as established agencies of the state. It is the latter kind that has been the generally prevailing one in America, but two of the former having been created. At present it is only the permanent commissions which receive the attention of the state. In some of the cases where such have been put into operation, it has been found necessary to amend the laws creating them, which has usually had the result of strengthening them or of extending the scope of their work.

Development of Commissions: Temporary Commissions

The first temporary commission to be created for the blind in the United States was that of New York in 1903, when the Governor of the State was authorized to appoint a commission of three members for the purpose of investigating the condition of the blind, with the preparation of a report regarding them.[1] Certain recommendations were offered by this commission, including one that it be made permanent.[2] A bill was passed in line with them, but was vetoed by the Governor. In 1906 another commission was sent out.[3] Its task was to take a census of the blind of the State, including their ages, causes of blindness, etc., and to ascertain how far it might be possible to ameliorate their condition, with especial reference to the practicability of industrial establishments. The work of the

[1] Laws, ch. 576. An appropriation of $1,600 was allowed for the work, which was later doubled. The first commission for the blind might possibly be said to date from the year 1884, when, as we have seen, the State board of charities was authorized to make an investigation of the condition of the blind, though only with reference to the feasibility of creating a special home for the indigent blind. In many cases, as we have also found, there were investigations regarding the blind on the opening of schools for them, intended in the main to ascertain the number of pupils who might be benefited by education.

[2] Other noteworthy recommendations were that there be personal visitation of the blind in their homes, that industrial schools be established, that the products of the blind be sold to the several State institutions, and that a register of the blind be kept.

[3] Laws, ch. 671. The appropriation was of $5,000. This was added to by the New York Association for the Blind, which also rendered assistance in the lending of rooms, catalogues, etc.

preceding commission, which had been incomplete, was continued; and among the recommendations submitted was the renewed one that the commission be made permanent. This, however, was not done till 1913.[1]

The second State to employ a temporary commission was Maryland in 1906, its duties being to inquire into the condition of the blind, and to ascertain their capacity for industrial training.[2] Among the recommendations of the commission was one that it be made permanent, but this failed of adoption.[3]

Development of Commissions: Permanent Commissions

The initial commission for the blind of durable nature to be established in the United States, though not called by such title, was that of Connecticut in 1893, when a special board of education for the blind was created.[4] Its main purpose, as its name indicates, was to look after the education of blind children, but other tasks were in time recognized, as well as formally added, which gave the board the character of an actual commission.

The first permanent commission under this appellation, however, was in Massachusetts, where it had its beginning in 1903.[5] It was directed to investigate the condition of the blind, and to consider means of betterment. The next year the scope of the commission was broadened, an

[1] A bill creating a permanent commission was passed in 1912, but was vetoed by the Governor.

[2] Laws, 1906, ch. 290; Ann. Code, 1911, p. 816. An appropriation of $3,000 was made The commission was authorized to aid blind men in their homes to the extent of $200 each and to assist other worthy blind persons in business or with tools to the extent of $50 each. The commission made a report in 1908.

[3] In Illinois a special investigation of the condition of the blind was made in 1908. Report of Board of Charities, 1908, p. 70. Logically speaking, there were two other States having temporary commissions, Massachusetts and New Jersey. Though their recommendations for permanent commissions were immediately adopted, the two bodies were in fact separate ones.

[4] Laws, 1893, ch. 156; 1895, ch. 319; 1901, ch. 164; 1905, ch. 66; Rev. Stat., 1902, §§ 2286–2295.

[5] Laws, 1903, Res., ch. 74; 1904, Res., ch. 87; 1905, p. 510. The members were at first three in number, and later five. The second appropriation was of $5,000.

especial duty laid upon it being to inquire into the capabilities of the blind for industrial employment.[1] The recommendations of the commission were generally adopted, the most important being that it be made permanent.[2]

The action of Massachusetts was soon followed by that of other States. In 1908 a commission was inaugurated in New Jersey,[3] for which in 1918 a special department under the State board of charities and corrections was substituted. In 1908 also a commission was created in Ohio,[4] in 1909 in Delaware [5] and Utah,[6] and in 1913 in New York.[7] In 1913 also New Hampshire, instead of establishing a regular commission, authorized its board of charities and correction to act in such capacity;[8] while Minnesota gave the directors of the State school, in 1917 supplanted by the State board of control, power to supervise a "field and employment agency" for the blind, which practically amounted to the appointment of a commission.[9] In 1915 a regular commission was created in Missouri;[10] while in Nebraska an "advisory board," consisting of representatives of several organizations for the blind, which in 1917 gave place to the board of commissioners of State institutions, was inaugurated to assist them,[11] and in Indiana the board of trustees of

[1] On the report rendered by this commission, see *Charities and the Commons*, xv., 1906, p. 618.

[2] Laws, 1906, ch. 385; 1907, ch. 173; Rev. Stat. Supp., 1908, p. 647; Laws, 1913, p. 1167; 1914, ch. 501, p. 1073; 1915, p. 172; 1916, chs. 149, 160, 201; 1917, ch. 125; 1918, chs. 141, 266. In 1917 the State supervisor of administration was directed to investigate the workings of the commission, "with a view to ascertaining what changes are necessary in order to secure a more comprehensive and efficient handling of the problems committed" to it, and to report thereupon. In 1918 the commission was reorganized.

[3] Laws, 1908, p. 731; 1909, p. 208; 1911, p. 114; 1916, chs. 17, 22; 1918, ch. 147; Comp. Stat., 1910, p. 1903; Supp., 1915, p. 473.

[4] Laws, 1908, p. 362; 1910, p. 347; Gen. Code, 1912, §§ 1360–1369; Supp., 1916, §§ 1360–1369.

[5] Laws, 1909, ch. 73; 1911, p. 283; 1913, ch. 10; Rev. Stat., 1915, §§ 2574–2584, 3738.

[6] Laws, 1909, p. 176.

[7] Laws, 1913, ch. 415; 1915, ch. 363; 1916, ch. 223; 1917, ch. 302; Cons. Laws, Ann. Supp., 1918, p. 831.

[8] Laws, 1913, ch. 117; 1915, pp. 163, 168; Pub. Stat., Supp., 1913, p. 160.

[9] Laws, 1913, ch. 488; 1917, chs., 185, 346; Gen. Stat., 1913, §§ 4151–4153.

[10] Laws, 1915, pp. 8, 223.

[11] Laws, 1915, ch. 287; 1917, chs. 233, 247. The original board was an "advisory"

the State school was empowered to act as a "board of industrial aid." [1] In 1917 a special commission was created in Tennessee.[2] In the same year the State industrial commission of Wisconsin was directed to aid the blind in securing employment.[3]

Most of these commissions or special boards have been secured through the efforts of friends of and workers for the blind, including sometimes associations for the blind, and to an extent also through the direct efforts of the blind themselves. In not a few instances State boards of charities or other public bodies have been assiduous in their endeavors to have commissions created.[4]

Present Extent and Organization of Commissions

There are at present commissions for the blind or boards having similar powers in fourteen States: Connecticut, Delaware, Indiana, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Tennessee, Utah, and Wisconsin.[5] Regular commissions

one, consisting of the superintendent of the State school and the executive board of the State association of workers for the blind, and in coöperation with the board of commissioners of State institutions.

[1] Laws, 1915, ch. 59; Ann. Stat., Supp., 1918, §§ 3492a–3492m.

[2] Laws, 1917, ch. 34.

[3] Laws, 1917, ch. 513.

[4] In some cases persistent efforts have been necessary to secure commissions. In Massachusetts the commission resulted largely from the activities of the Massachusetts Association for the Blind, which had been organized but a little time previously. *Charities and the Commons*, xvi., 1906, p. 470. In Utah action was in considerable part secured through the efforts of the San Francisco Association. In New Jersey the commission was brought into being only after many appeals. In Minnesota efforts are said to have continued for twenty-five years for the creation of an agency. On the efforts to secure commissions, see *Outlook for the Blind*, ix., 1916, p. 103; Proceedings of New York State Conference of Charities and Correction, 1904, p. 139; *Coöperation*, viii., 1908, p. 246; *New Jersey Review of Charities and Corrections*, vii., 1908, p. 150; Report of Indiana Board of Charities, 1909, pp. 25, 70; 1910, p. 39; 1911, p. 31; 1912, p. 25; 1913, p. 34; Bulletin of Illinois Board of Charities x., 1908, 3, July, p. 5; xi., 1908, 1, Dec., p. 1; xi., 1909, 2, March, p. 57; Report of Illinois Board of Charities, 1908, pp. 70, 209; 1909, p. 34; Report of Illinois State Charities Commission, 1910, p. 32; Report of Commission to Investigate the Condition of the Blind in the State of New Jersey, 1909, pp. 11, 15; Message of Governor of Utah, 1911, p. 29; Message of Governor of Missouri, 1915, p. 12; Message of Governor of Indiana, 1915, p. 36; *Nashville Banner*, April 13, 1911.

[5] The commission in Utah is now inactive. Bureau of the Census, "The Blind in the United States," 1917, p. 311.

consist of from three to seven members each, the most frequent number being five.[1] They are appointed as a rule by the Governor, sometimes with the approval of the State Senate. In Delaware they are selected by the Justices of the Superior Court. They usually include a physician and one or more practical workers for the blind, sometimes the head of the State school, and sometimes a blind person as well.[2] The members are generally divided into classes, serving three, four, or five years, and subject to reappointment. There is seldom any compensation attached to the office of commissioner, the public appropriations being only for the expenses incurred in the prosecution of the work. In most instances a report is made, annually or biennially, to the Governor or to the legislature.

In those cases where the work is carried on by a body not designated officially as a commission, the organization is somewhat different. In Connecticut the work is under a special "board of education for the blind," consisting of four members, whose attention is directed to the needs of blind adults as well as to the instruction of blind children.[3] In Indiana the board of trustees of the State school constitutes a "board of industrial aid." In New Hampshire and New Jersey the State board of charities and correction has charge of the work, with immediate direction in the former State by a special board of managers; in Minnesota and Wisconsin, the State board of control; and in Nebraska, the board of commissioners of State institutions.

Scope of Work of Commissions

The scope of the work of commissions varies in the several States, some commissions having a wider range than

[1] The number is three in Tennessee; five in Massachusetts, Missouri, New York, and Utah; six in Ohio; and seven in Delaware and New Jersey. In Delaware at least one member must be from each county of the State.

[2] In Utah the Governor of the State is included. In Connecticut and New York no one may be a member who is connected with an existing institution for the blind.

[3] This board includes the Governor and the Chief Justice of the State.

others.[1] The duty prescribed most often is the maintaining of a register of the blind, with information regarding their ages, causes of blindness, physical and mental condition, capacity for industrial employment, etc. Industrial assistance of one kind or another, provision for home teaching, and measures for the prevention of blindness are other frequent requirements. In the following scheme are shown in detail the activities authorized or directed on the part of commissions.[2]

Register of the blind to be kept: Indiana, Connecticut, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Tennessee, Utah.

Bureau of information and advice to be maintained: Indiana, Massachusetts, Missouri, New Hampshire, New York, Ohio, Tennessee.

Education of blind children to be directed: Connecticut, Delaware, New Jersey.

Assistance in advanced studies may be given: Nebraska.

Children to be brought into school: Connecticut, Massachusetts, Minnesota.

Books may be circulated: Delaware, Indiana, Massachusetts, New Hampshire, Tennessee.

[1] It is quite possible that a future important function of commissions will be the special training of persons blinded in industry or otherwise, a matter to which attention has already been given. This, however, will be but an extension of the work of commissions in general industrial training. In Massachusetts the State board of education, which has been directed to report on the matter, has made such recommendation. See Special Report of Massachusetts Board of Education Relative to the Training of Injured Persons, 1917. The work will probably be under the direction of industrial accident boards. In 1918 in Massachusetts the State board of education was directed to make special provision for the care and training of persons disabled in military service.

[2] General measures for the amelioration of the condition of the blind are authorized in Missouri, Nebraska, and New Jersey. In Delaware the commission may "exercise general supervision and control of the education, training, and welfare of the blind." In Utah only blind persons over twenty-one years of age may be dealt with. In some States, as Massachusetts, Missouri, Nebraska, New Hampshire, New York, Tennessee, and Utah, the dispensing of charitable relief is expressly forbidden. In Nebraska loans may be made to assist the blind in study or in business. In Massachusetts information may be exchanged with the State board of charities, the bureau of statistics, and local overseers of the poor; and investigation may be made of cases of defective sight, with the extension of certain aid. In a few States, as New Jersey, physicians are required to report persons likely to become blind. In several States, as New York, there are advisory boards of physicians. The commission in Delaware also has charge of the deaf and the feeble-minded who are sent to institutions outside the State. The special board in New Jersey also supervises the education of deaf and feeble-minded children.

Home teaching may be conducted: Connecticut, Delaware, Indiana, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New York, Ohio, Tennessee, Utah.

Bureau of industrial aid to be maintained: Indiana, Massachusetts, Missouri, New Hampshire, New York, Ohio, Tennessee, Wisconsin.

Assistance to be rendered in finding employment: Indiana, Minnesota, Nebraska, New Hampshire, Utah, Wisconsin.

Tools or supplies may be furnished: Massachusetts, Minnesota, New Jersey, Missouri, Nebraska, New Hampshire, New York, Utah.

Home products may be marketed: Indiana, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New York, Utah.

Employment with the seeing may be provided for: Massachusetts.

Industrial shops may be established, or industrial training provided: Delaware, Indiana, Massachusetts, Missouri, New Hampshire, New York, Ohio, Tennessee, Utah.

Temporary relief may be extended: Minnesota, New Hampshire, Utah.

Measures to be taken for the prevention of blindness: Indiana, Massachusetts, Missouri, Nebraska, New Jersey, New York, Ohio.

Surgical treatment may be provided if advisable: New York.

Most of the commissions have special headquarters, often rented in the business section of the metropolis of the State. The annual appropriations granted range from a few thousand dollars to fifty thousand or more, the sums usually being gradually increased in the course of the years.[1] In New Hampshire the amount is approximately $2,500; in Delaware, $3,000; in Utah, $4,000; in Indiana and Tennessee, $10,000; in Missouri, $12,500; in New York, $34,000; in Ohio, $70,000; and in Massachusetts, $91,000, nearly one-half being for industrial activities. In Nebraska there is a "nucleus of a fund for the relief of the blind" of $2,000. In Minnesota there is no direct appropriation made, the sum of $3,000 being allowed from the funds of the State

[1] The amounts appropriated for the first commissions were often small, perhaps not over $1,500.

school.[1] Occasionally commissions have been aided from private sources.[2]

Results of the Activities of Commissions

As with associations, much of the work of commissions has been considered in our discussion of efforts for the prevention of blindness, industrial provision, and other forms of work for the blind. Most of the commissions, being new, have employed but a part of the powers entrusted to them, though nearly all have made a more or less complete registration of the blind in their several jurisdictions, while a fair proportion have initiated some form of industrial assistance.[3] The older ones have endeavored to keep in touch with the blind generally and to render appropriate assistance as far as their powers and resources have permitted. Nearly all carry on more or less extensive campaigns to educate the public with regard to the blind, and especially with regard to the prevention of blindness.[4] In most cases there is greater or less coöperation with educational, charitable, medical, and social agencies. In States where special associations for the blind are in existence, attempt is usually made to coördinate as far as possible the work of the two organizations, with the avoidance of duplicated efforts.[5] In general, the work of com-

[1] The larger counties in Minnesota are permitted to assume expenses up to a certain amount.

[2] The commissions of some States, as Missouri, New York, and Utah, are expressly authorized to receive private donations. In Missouri the appropriation is made on condition that an equal sum be secured from private means. On the veto by the Governor of that State of an appropriation of $50,000 for the work of the commission, the amount was raised by private subscription. Private funds given for the benefit of the blind in Minnesota and New Hampshire are largely administered by the special boards.

[3] Information regarding blind persons is secured through various persons, including postmasters, clergymen, physicians, teachers, public officials, and other blind persons.

[4] Newspapers and other periodicals have often been generous in lending their aid. In one year in Ohio there were 143 newspapers furnishing information regarding the blind and regarding the prevention of blindness.

[5] In New York the commission has branch offices with the several local associations, and with the charitable societies having special departments for the blind.

missions may be said to be fairly measured by the resources at their disposal, and by their experimental acquaintance with the situation.[1]

Public Agencies Other than Commissions Affecting the Blind

In addition to the regularly constituted commissions, there are in a few States agencies which serve the blind in certain respects after the manner of such, and in some cases not much less effectively. In Rhode Island the State board of education conducts home teaching, maintains a salesroom for the disposal of the goods of the blind, and performs other similar work. In Colorado the State board of education in coöperation with the school and the workshop for the blind maintains a register of the blind, and conducts home teaching. In Maine the workshop has charge of home teaching and the circulation of books. In Maryland the workshop in connection with the school carries on like undertakings. In the exchanges and salesrooms of certain of the special schools, especially that of the Pennsylvania Institution, there is often a more or less close approach to the work of commissions. In Illinois the State department of public welfare performs certain services for the blind, growing out of the functions of the department of visitation and instruction of the adult blind. In other States boards of charities or other public bodies have been engaged in looking after the blind in some small way. Reference has been made to the labors of the schools, libraries, industrial establishments, and other agencies in the extension of their several activities.

[1] In Massachusetts the different forms of service rendered and the number of blind persons assisted by each were in 1917 as follows: training given or expenses furnished, 261; regular employment given or secured, 152; temporary work given or secured, 40; home industry fostered by loans, use of canvasser, use of salesroom, etc., 247; shop industry or canvassing fostered by provision of guide, 65; information or advice of more than passing nature, in medical care, education, occupation, relief, etc., 337; reported to other agencies for the blind, 210; reported to general agencies, 179; recreation, concerts, outings, vacations, etc., 348.

NOTE TO CHAPTER XLIV.—On commissions for the blind, see *Charities and the Commons*, xv., 1906, p. 610; *Outlook for the Blind*, i., 1907, p. 111; ii., 1908, p. 118; xi., 1917, p. 47; *Modern Hospital*, viii., 1917, p. 219; Ohio Bulletin of Charities and Correction, xvi., 1910, 1, Feb., p. 25; 2, May, pp. 62, 93; xviii., 1912, 1, March, p. 37; Illinois Institution Quarterly, viii., 1917, 4, Dec., pp. 101, 116; Proceedings of American Association of Workers for the Blind, 1907, p. 31; 1909, p. 93; Proceedings of New Jersey Conference of Charities and Correction, 1907, p. 49; Proceedings of Pennsylvania Conference of Charities and Correction, 1911, p. 136; Proceedings of New York State Conference of Charities and Correction, 1914, p. 241; Report of New Hampshire Board of Charities, 1916, p. 84; *New Jersey Review of Charities and Corrections*, Feb., 1911; Report of New York State School, 1904, p. 43; Nebraska School, 1916, p. 28; Proceedings of National Education Association, 1916, p. 819; Report of United States Commissioner of Education, 1909, p. 241; Report of New York State Board of Charities, 1913, i., p. 245; Massachusetts Association for the Blind, Reports of Ten-year Survey Committee on the Work of the Massachusetts Commission for the Blind, 1916. See also reports of several commissions.

CHAPTER XLV

PROVISIONS BY THE NATIONAL GOVERNMENT FOR PERSONS BLINDED IN WAR

Insurance for Seamen Losing Sight in War Zones

One further form of public activity on behalf of the blind, and perhaps fittingly the last in the general scheme of work for them in the United States, remains to be considered. This is the provision which has been made by the Federal Government for persons blinded in war—provision notably different from all others in that it has been fully determined upon and planned beforehand, or in anticipation of possible consequences of a certain course of action—its entrance into the European War. While it may perhaps be regarded, in its occasion, as but temporary and provisional, it nevertheless represents a procedure never before put into operation in this country, and offers a general program with respect to the blind which is in many respects a significant one.

In their bearings upon the loss of sight, the measures adopted are of a four-fold division: provision for insurance for seamen in war zones; provision for indemnities for persons suffering disability in military service; provision for insurance for such persons; and provision for the care and training of persons so injured. The first three might logically enough be included with the general public or publicly assisted or directed measures of indemnity, especially those on the part of the National Government; but because of the peculiar and distinct situation arising from the participation of the country in war, they may best be treated as a whole in the present connection.

The initial benefit created is that for seamen in private employment subjected to danger in war zones, constituting

indemnity with public assistance. Measures to this end were taken by an Act adopted in 1917,[1] amendatory to a War Risk Insurance Act of 1914, which had provided for insurance for vessels sailing into such areas. The latter undertaking having proved to be a very successful one, it was decided, after the United States had entered the War, to extend the principle to cover seamen so engaged, private companies being both unwilling and unable to write the risks therein, especially as such were of a character not to be foretold. Under the amendatory Act the Treasury Department, through a Division of Seamen's Insurance in the Bureau of War Risk Insurance, is authorized to effect insurance at reasonable rates, subject to due change; and all owners of American vessels are required to insure the master, officers, and members of the crew against loss of life and personal injuries. For certain injuries, including the loss of sight in both eyes, a sum, equal to that for death, is to be granted, equivalent to one year's earnings, as fixed in the articles of voyage, but not less than $1,500 nor more than $5,000; and for the loss of one eye, 45 per cent of such earnings.[2]

Allowances for Persons Losing Sight in Military Service

The remaining measures are more directly concerned with the active participation of the United States in the War. Among the first War preparations of the Government in 1917 was that of providing for possible disabled soldiers and sailors, the giving of such foresighted attention to the matter, especially as a substitute for former pension plans, being a novel feature in American military effort. Included are both the awarding of indemnities and the

[1] Stat., 1917, p. 102; 1918, ch. 145. See *Monthly Review*, v., 1917, 2, Aug., p. 92.

[2] In case of failure to insure, this is done by the Treasury Department, and a fine of not exceeding $1,000 is imposed, besides all costs, such constituting a lien on the vessel. Insurance may be taken out through collectors of customs or through insurance companies on terms satisfactory to the Department. The provisions continue three years after the end of the War.

extension of subsequent care. The system of indemnities adopted is without precedent, and is of very great significance. It embraces two distinct proceedings: indemnities without contributions by the beneficiaries, and indemnities with such contributions. One is in the form of direct allowances or compensation in the event of disability, and the other in the form of regular insurance policies.

The statute incorporating these several measures was enacted in 1917,[1] being a consolidation also of the prior legislation with respect to war risk insurance just considered. Under the Bureau of War Risk Insurance there is established a Division of Military and Naval Insurance, having charge of the giving of indemnities. In the portion of the Act relating to disability allowances, compensation is provided for officers and enlisted men who suffer injury or contract disease "in the line of duty," and "when employed in active service under the War Department or Navy Department." The disability must occur within one year after resignation or discharge from the service, except in cases where there is a medical certificate, made within one year, to the effect that disability is likely to result.[2] For blindness or the loss of sight in both eyes, specifically, the sum of $100 a month is granted, to be payable through life, with no other compensation. For partial disability the allowance is based on the loss of earning power (with no allowance if this loss is less than ten per cent), as determined by average impairments in civil occupations, and not on individual impairments, so that there may be no reduction for individual success in overcoming handicaps.[3]

[1] Stat., 1917, p. 398; 1918, ch. 104. See *Monthly Review*, v., 1917, 5, Nov., p. 183.

[2] In the determination of the amounts to be granted, both for allowances and for insurance, the provisions of the workingmen's compensation legislation in the different States were used as a model.

[3] Benefits are not payable to persons in service or retirement pay. No compensation is extended in respect to acts occasioned in willful misconduct, or in case of dismissal or dishonorable discharge. Females in the Army and Navy Medical Corps are included, compensation to them being regarded as in lieu of any under the Federal Employees' Compensation Act. Medical services and appliances are

Insurance for Persons Losing Sight in Military Service

In the portions of the Act relating to compensation through insurance there are perhaps presented the features of greatest novelty and of greatest significance. The purpose is to secure further benefit, or, in the words of the Act, "greater protection," for those in the military service who so desire, the augmentation being accepted as an insurance claim, in respect to which contribution in part by them is necessary. In the planning of this, it was found at the outset that the rates for insurance for war risks from private companies were generally of a prohibitory nature; and hence it only remained for the Government to assume direction. The bearing by it of the charges of administration and of the excess cost due to the increased risks was considered quite appropriate, while at the same time there would be effected a saving to it in the absence of commission fees to agents, of medical examinations, of advertising expenses, and of other charges usually sustained by private organizations.[1]

For the persons above described insurance is provided in

furnished without cost. Medical examinations may be had from time to time, with the payment of traveling and other expenses, the refusal of which causes suspension of compensation; and reasonable medical and surgical treatment may be offered, the rejection of which absolves the Government from the consequences. A due schedule of ratings is to be adopted, subject to readjustment from time to time. Awards may be reviewed, with possible increase, reduction, or termination. Payments are as a general thing exempt from attachment, execution, and taxation. No claims are allowed unless filed within five years after the disability, or after the beginning thereof, with the addition of one year for good cause. For persons in their minority or under mental or physical disability, time does not run till such disability has ceased. No compensation relates back farther than two years prior to the date of claim, with one year in respect to increased compensation. For injuries received in such circumstances as to create a legal liability against third parties, compensation is afforded on condition that all legal claims with respect thereto be assigned to the Government.

[1] In the making of the arrangements there was coöperation on the part of representatives of the Departments of the Treasury, War, Navy, Commerce, and Labor, of the Council of National Defense, and of a large number of insurance corporations, the last named offering the benefit of their organization and machinery. See *ibid.*, 2, Aug., p. 100. See also Treasury Department, Bureau of War Risk Insurance, Division of Military and Naval Insurance, Bulletin, no. 3, 1918.

sums, in multiples of $500, not greater than $10,000 nor less than $1,000, the amount known as the principal becoming due on total permanent disability, and payable in monthly installments through its continuance.[1] The premium rates are the net rates, based upon the American Experience Table of Mortality, and interest at 3½ per cent per annum. Application is to be made within 120 days after enlistment or entrance into service, or, if one is already in service, after notification, and before resignation or discharge, no medical examination being required.[2] Terms are to be determined upon and published by the Secretary of the Treasury.[3]

Provision for the Care and Training of Persons Losing Sight in Military Service

In the Act referred to it was originally provided that in case of permanent disability, that in the form of blindness being expressly mentioned, there should be afforded, under the direction of the Surgeon-General of the United States

[1] The principal becomes likewise due on death.

[2] In the event that a person is disabled before the expiration of the time specified, he is deemed to have been allowed insurance yielding monthly installments of $25 through life, but not more than 240 in all. The insurance granted is not assignable, and is not subject to claims of creditors. Any matters arising from disagreements are to be settled in United States District Courts, and no attorneys or claim agents may receive more than ten per cent of the amount for fees. Provisions may be made, as with life insurance, for maturity at certain ages, for continuous installments during life, for cash, loan, paid-up, and extended values, dividends from gains and savings, and such other features as may be found reasonable and practicable, either by contract or by regulation. Until converted, insurance is term insurance for successive terms of one year each; after five years it is to be converted into such forms as may be prescribed or desired. The regulations are to provide for ordinary life, 20-payment life, endowment maturity at age 62, and other usual forms, with methods and times of payment. Under the regulations adopted, the premiums per $1,000 of insurance range from 63 cents at 15 years, to $3.35 at 65 years; while the amount of monthly installments is fixed at $5.75 per $1,000. Charges for premiums are deducted from regular pay unless otherwise arranged.

[3] On disability and insurance benefits, see *American Monthly Review of Reviews*, lvi., 1917, p. 401; *Nation*, cvi., 1918, p. 158; *Independent*, xci., 1917, p. 404; *Philadelphia Public Ledger*, Aug. 12, 1917; *Survey*, xxxviii., 1917, pp. 341, 450, 504, 541, 560; xxxix., 1917, p. 39; *Journal of Political Economy*, xxvi., 1918, p. 461; *American Economic Review*, viii., 1918, p. 395; *Annals of American Academy of Political and Social Science*, lxxix., 1918, pp. 52, 68; Proceedings of Academy of Political Science, Feb., 1918, p. 152. Over ninety per cent of the persons in military service have taken out insurance.

Army, courses for the "rehabilitation, reëducation, and vocational training" of persons blinded in military service. For the accomplishment of this, there might be required a form of reënlistment, with such pay as was received during the last month of active service, this ceasing upon refusal to take such courses or to reënlist. In 1918, on the creation of the Federal Board for Vocational Education, the foregoing provisions were repealed, and for them substituted other ones. Under this Board provision is made, including special vocational training where feasible, for a person "unable to carry on a gainful occupation, to resume his former occupation, or to enter into some other occupation," or for a person who, having made such attempt, is unable to continue thereat. The pay afforded is the same as under the former Act, except that this may be the amount of disability allowance in case such is larger than former service pay. Studies and investigations of industrial conditions are authorized, with a view to placement; and there may be coöperation with existing agencies, while the resources of the Department of Labor may be availed of. Medical and surgical treatment are continued as before up to the time of discharge, with the advice and cooperation of the new Board; while after discharge further care and training are assumed by this Board (and also of persons who are found in need of assistance at a later time), but with the advice and cöoperation of the office of the Surgeon-General—the intention being to afford a continuous process of vocational provision.

In the execution of these measures, a carefully devised program, based in considerable part on European experience, and after full preliminary investigation,[1] has been prepared for persons blinded in military service.[2] It may

[1] Under the auspices of the Committee on Ophthalmology of the Council of National Defense, a conference of educators of and workers for the blind was held in October, 1917, in Washington, to draw up plans, a representative of the Surgeon General having already made an investigation in Europe. See *Monthly Review*, v., 1917, 4, Oct., p. 45; *Survey*, xxxix., 1917, p. 352; xl., 1918, p. 40.

[2] Possession of not more than one-tenth of vision theoretically is regarded as con-

be said to consist, generally speaking, of three stages, with full curative and restorative treatment to be availed of in each, especially at the beginning. The first is at hospitals immediately after disablement, where occupational and recreational facilities are afforded to whatever degree is possible.[1] Persons who are found to be actually and permanently blind are placed in a special hospital and training institution, established at Baltimore.[2]

Here the second stage commences. Under a regular teaching staff, instruction is given of appropriate character and range, both as a means of adaptation to the new state, and for later practical usefulness;[3] and the beginnings of vocational training, or "occupational therapy," are undertaken. The vocational plan to be followed for individual cases, whether inaugurated here,[4] or adopted after the passing from military control to civilian direction, is to be based largely on a study of past life and of present capabilities and desires. Wherever possible, a return to former occupation is to be attempted, with necessary readjustment. Where this does not appear feasible, suitable educational measures are to be resorted to. Special industrial training is to be afforded both in the trades already availed of by the blind and in such others as may be found acceptable. If called for, this may be done at a selected institution for the blind, where intensive methods may be had. For persons capable of professional careers, provision is to

stituting blindness, though in practice one is to be considered as blind who has insufficient sight to perform work for which eyesight is essential.

[1] Occupational activities start with reed work, carpentry and joinery, net making, etc. Special instruction is given in reading and writing in raised print, and in pencil writing. Much attention is likewise devoted to music and to attendance at entertainments. Amusements of various kinds are afforded, especially games and sports, both indoors and outdoors. Lessons are also provided in self-helpfulness, as in dressing, shaving, use of tableware, walking with cane, and the like.

[2] This is an estate, the use of which has been donated, containing a hospital, school, shop, gymnasium, facilities for entertainment, etc. For additional equipment the Government has expended $250,000.

[3] Physical training includes gymnastics, athletics, field sports, tramps, swimming, boating, skating, etc.

[4] The length of time to be spent at the special institution depends mainly upon the ability of the blinded one to take up work outside, and upon the discontinuance of medical treatment.

be made at proper institutions. Special agents are engaged to make investigation of all possible occupations for the blind and to assist in placing the blind therein.[1] Persons likely to remain helpless and unable to engage in an occupation to an appreciable extent, or after trial found to be so, may be permanently cared for in special homes, or in private homes of relatives or friends.

The last stage of Governmental direction of persons blinded in military service begins with their dismissal from special training and their entrance upon their assigned careers. By the Federal Board for Vocational Education general supervision and follow-up work are continued as long as may be required, through life if need be.[2]

To assist in and to supplement the general work for the blinded, there has been organized the "Red Cross Institute for the Blind," this being made possible from a private contribution of $100,000 from the Permanent Blind Relief Fund, first collected for the benefit of Allied soldiers and sailors. It coöperates both with the military training school and with the Federal Board for Vocational Education.[3] Special attention is directed towards the providing of helpful intellectual and social entertainment during the period of training, and the securing of after employment.[4]

[1] In case particular assistance may be required for helpless persons, instruction may be given to members of the family, so as to enable them to be usefully occupied.

[2] A special supervisor is appointed for the blind. Further aid is rendered through the several district offices of the Board. There is also coöperation with the Department of Labor.

[3] The Institute makes extensive inquiries as to possible openings for the blind; and may act as a purchasing and selling agent for them, sometimes in connection with home work. It assists in the instruction of members of the families of the blind, in the providing of reading matter, and along other lines. Its committee of direction is composed of six members.

[4] On provision for persons blinded in military service, see United States Committee on Public Information, Official Bulletin, March 21, July 20, 1918; *Carry On*, July, 1918; "Red Cross Institute for the Blind," 1918; *Outlook for the Blind*, xi., 1917, pp. 52, 54; xii., 1918, p. 37; *Survey*, xl., 1918, p. 617; *Journal of American Medical Association*, lxx., 1918, p. 1031; *American Journal of Ophthalmology*, i. (n. s.), 1918, p. 374; ii., 1919, p. 47; D. C. McMurtrie, "The Disabled Soldier," 1919, p. 120; *Scientific Monthly*, vi., 1918, p. 479; *Annals of American Academy of Political and Social Science*, lxxx., 1918, pp. 104, 117; Report of San Francisco Association for the Blind, 1918, p. 33; R. T. McKenzie, "Reclaiming the Maimed," 1918, p. 117;

Modern Hospital, xi., 1918, p. 290. See also publications of Red Cross Institute for the Blind, and of Federal Board for Vocational Education.

NOTE TO CHAPTER XLV.—The number of blinded among the military forces of the United States in the European War will probably reach not less than one hundred. The number blind in one eye will be much greater. There will be others with various degrees of defective eyesight.

PART VII

CONCLUSIONS WITH RESPECT TO THE WORK FOR THE BLIND

CHAPTER XLVI

CONCLUSIONS WITH RESPECT TO THE WORK FOR THE BLIND IN THE UNITED STATES

We have now reviewed the work for the blind in the United States. We have seen their condition, and have discerned their general needs. We have considered in detail the several measures that have been advanced to better their state, together with the general attitude that has been displayed with regard to their problems. There only remains the inquiry as to how far the treatment which we have found accorded to them appears on the whole to meet the situation set forth.

In the presence in its midst of a body of persons deprived of the sense of sight, society has a problem of rare seriousness. The exceeding difficulty of the task of providing properly for them has to be frankly recognized at the very outset. The fact of blindness immediately puts all those suffering under it in a position entirely different from that of all the other components of the population. The condition of such is of a character to require a peculiar treatment, and one for which few lessons may be gained elsewhere. Indeed, it may be open to question whether there is any other class in society in respect to which the discovery of suitable and appropriate measures is harder, and which, upon the finding and application of such measures, may be acted upon, in proportion to the numbers involved, more beneficially.

So great, in fact, is the problem created by the blind that we are constrained to ask whether in a well-ordered state there should be such a thing as blindness. It is perhaps to this phase, namely, the necessity of blindness, or whether its existence should be allowed, that, in our

consideration of the relation of society to the blind, foremost attention should be directed.

For a large period of recorded time blindness has been looked upon as one of the great ordained afflictions to which human flesh is heir. It has been accepted as a natural part of the order of earthly subsistence. That a certain portion of the race should be without sight has been taken as in conformity with the course of the affairs of men. In days past there was little thought as to the possibilities of the prevention of blindness, or even of an appreciable reduction of it; and there was little questioning as to whether any fraction of the blind population might have been kept from falling into such a state.

In the process of time, however, a change has taken place. It has gradually come to be seen that there were certain individual cases of blindness which hardly seemed necessary, or which might not have occurred had proper precautions been taken. As advance has also been made in medical science, it has appeared more and more clearly that from certain diseases or injuries blindness should not have been permitted to result. With further examination of the problem, the belief has arisen that a part of the blindness which afflicts men might have been averted. Thus with increasing knowledge and with increasing concern in the matter, we have arrived at the conviction that some, perhaps much, of blindness is preventable, and that it is incumbent upon us to find means to do away with all that is so.

The present movement, moreover, in medical research and social investigation is one of prophylaxis. It is felt to be infinitely better to prevent the ills that beset the physical body or the body politic than to attempt a cure after disease has effected lodgment in the system. Today an ever increasing emphasis is placed upon the possibilities of preclusion; and in the warding off of threatening evils is often the main battle. With respect to the matter of blindness this conception has particular force.

Sooner or later we are to perceive that to permit a considerable portion of the race to become sightless when such a result might have been avoided is as humanly cruel as it is economically wasteful. The issue of prevention will in time be discovered to be the fundamental one in regard to the blind; and it may well come to pass that the various measures now being planned or executed for the benefit of the sightless will be regarded as but temporary and provisional.

Nor is our conception of the preventability of blindness to a very large extent an unsubstantial one. It has in it nothing of the visionary or illusory. It is a purely practical consideration; it is a proposition scientifically demonstrable. Indeed, because of the fact that the causes of blindness are relatively less obscure than are the causes of certain other of the defects or infirmities of the human race, blindness is perhaps one of the first of such defects or infirmities that should be eradicated.

At present there may be said to be a fairly well-defined field with respect to the prevention of blindness. Concretely stated, it is found that perhaps well over one-half, perhaps nearly two-thirds, of it might have been avoided by means known to us. A certain part of this is to be ascribed to infectious diseases, either affecting the eye particularly, or the consequence of disorders of more systemic character. With timely, suitable, and skilled attention in either case, including attention to the aggression of such diseases upon the organs of sight, and with due isolation for individual cases as may be required, we may be sure that a very considerable proportion of blindness from both local and general diseases may be checked.

One infectious disease in particular which has a direct bearing upon the loss of vision is most readily under our control. This is infant blindness, or ophthalmia neonatorum, which is responsible for a distinct part of blindness—for nearly one-fourth of that existing in the special schools for the blind. By the employment of a certain easily

applied prophylactic at birth, or shortly thereafter, the germ involved is effectively destroyed and the child's eyes saved. The process is such a simple one, and at such a trivial cost, that it would seem to have come into general adoption. This, however, unfortunately, has not proved to be the case. In the matter many practitioners are still quite negligent. To meet the situation, it is necessary that the law intervene and impose the proper requirements. These will include direct treatment at birth, or the reporting of all births with a statement as to whether a prophylactic has been administered, and notification of the health authorities of any trouble with the eyes within a short time after birth. In addition, the prophylactic may itself be provided without cost wherever it may seem desirable, in order that no excuse for failure may remain. In all cases there must be rigorous follow-up work, to see that every safeguard is adopted, and no child left in danger. In the careful regulation of the practice of midwives, furthermore, though a part of the general scheme of public health, there will be a very beneficial effect upon the situation. Of recent years there has been enacted with respect to the disease a considerable amount of legislation, which bids fair to extend to all the States in the coming years. Enforcement of statutes of such character may be said to have been so far of rather limited character; but an increasing tendency to insist upon this may now be noted. Yet legislation is not the only means to be employed in the combat. In the conducting of wide educational campaigns, with the bringing home to the public of the dangers from the disease, there may be accomplished the greatest good in the conquest of the malady.

Another disease, trachoma by name, the cause of very much blindness in certain sections of the country, likewise lends itself to simple and efficacious treatment. By the adoption of proper, and what should be general, sanitary measures, as well as by timely treatment, it may be greatly reduced in extent if not wholly eliminated. Towards the

problem public attention, including in particular that of the National Government, is now being turned, which, coupled with popular educational campaigns, offers considerable promise.

For most of the other diseases that cause blindness we shall have to wait upon the developments of medical science both in the study of diseases and in their treatment, though much is to be accomplished in the general enlightment of the public with respect to them. In the preservation of the general health and in the avoidance of conditions likely to bring on an impairment of the sight, we may expect a proportionate diminution in the total amount of blindness.

In the loss of sight occurring from injuries and accidents to the eye there is no less a field for prevention. Perhaps the first step in this direction lies in the securing of proper and sufficient lighting facilities everywhere—in the home, in the school, in the workshop, and in places of public assembly of whatever kind. Happily, we may believe that an increased concern is today being displayed in the matter, and that in time to come there will be much less damage to the vision from bad lighting. Next, attention is to be given to the dangers to the eye which may result from carelessness or want of caution in certain occupations or pastimes, or in the general activities of life. To all must be brought home the realization of the risks to which the eye is exposed, with the inculcation of lessons of heed and prudence. Here, too, there is full opportunity for an organized campaign of instruction for the public. In this campaign there must also be warning as to the peril involved in general neglect of the eyes when they call for attention. Of the eyes of school children in particular there must be periodical examination, with proper treatment where needed. For those whose vision is seriously defective, special "sight-saving" classes should be established.

A considerable portion of blindness from injuries, however, is attributable to industrial conditions which are

quite beyond the power of the individual to control, and for which society as a whole is mainly to blame. Dangerous occupations have exacted too heavy a toll in the way of blindness, and failure to provide adequate protection has darkened the life of many a toiler, often in its prime and vigor. The duty of furnishing proper safeguards would seem to be one imposed by ordinary solicitude; but where this is wanting, the law should see to it that in all factories and other industrial establishments in which men are engaged at work there are installed devices of a character to prevent injuries to the organ of vision. Attention should be given to protection not only against particles and objects striking the eye and against intense heat and light, but also against drugs and chemicals the fumes or vapors of which may be no less deleterious. For such a harmful substance as wood alcohol, especially in a deodorized state, the most careful regulations are demanded, which might even extend to the prohibition of its use altogether. As a final measure for saving the sight from jeopardy, there should be included in all workingmen's compensation laws definite and distinct reference to injuries to the eye, with the compensation to be afforded in the event of the loss of sight so high that it will be to the advantage of employers to equip their plants with all due safeguards.

The necessity for the adoption of safety measures for the protection of the eye is now recognized in all enlightened establishments, and in a growing number they are being to a greater or less extent installed. In the matter of legislation enacted on the subject, we find that for the most part only a beginning has been made, and that in but very few States have measures at all adequate been attempted. In a number of them, however, there is statutory action of one kind or another that is encouraging. Such may in fact be regarded as the entering wedge, or as the forerunner of further legislation which is to come. We may, moreover, rejoice in the fact that we are passing through an age of increasing humane concern, especially in connection with

the protection of industrial workers, a concern which is being more and more reflected in the enactments written in the statute books. As this sentiment is intensified and broadened, we may expect very full measures for the prevention of injuries to the eye.

For that form of blindness which may be called hereditary, we need not have, as far as its extent is concerned, special alarm. The matter is a part of the general question of heredity, of which our knowledge is slight; but so far as we can find, the amount of blindness that is inherited is not on the whole great. In certain families a strain of blindness is plainly to be discovered; and to the possibilities in respect to these there should be full heed. The actual operations of hereditary forces are as yet very obscure—whether we regard them as manifesting themselves through particular channels, or through particular diseases; or whether we regard them to be, not so much in the transmission of blindness itself, as in the passing on of a particular disorder or affection liable to result in blindness, or of a certain predisposition or tendency to blindness. From what we are now able to learn, the diseases of hereditary character which may produce blindness are of a limited number, only a few being of any considerable extent. In consanguineous marriages there is evidently also a certain part played in the causation of blindness, though this, relatively speaking, is likewise but small. In the marriages of the blind, so far as their hereditary effects are concerned, there is, all in all, but little ground for disquietude. Such marriages are in general less frequent than those of the sighted, unions of the blind with the blind being on the whole of rather uncommon occurrence; and as a general thing they are little likely to result in blind offspring—in fact, hardly more so than are unions of the blind with the seeing. The real danger in the matter seems to lie in the marriage of persons, whether blind or sighted, especially such as are with blind relatives, who have one of the particular diseases which are liable to be transmitted. It is here that attention is to be

focussed, and that perhaps drastic measures may be called for.

Our final topic in connection with the possibilities of the prevention of blindness has to do with the question of its increase or its decrease in relation to the general population in the United States. From the immediate outlook, its elimination may not be looked for in any time which we can now measure; nor perhaps can a considerable reduction be expected for a great many years to come. Yet the situation is far from being a discouraging one. Though we do not possess full and accurate data to enable us to draw definite conclusions in all respects, there are certain aspects of the matter which are distinctly hopeful. From what we can learn, it is hardly to be doubted that blindness among the younger portion of the population is declining. In part in keeping with this, we may believe that we can discern signs of diminution in particular directions. From the statistics available, there may be perceived a decrease in blindness from many of the general diseases that have formerly occasioned it, this being especially true of those occurring in early life. That people no longer go blind from such diseases seems fast coming to be. In blindness from ophthalmia neonatorum and trachoma, two local affections responsible for no little blindness, what evidence we have points to a decrease, even though slight. As a further consideration, with respect to both local and general diseases, there seems reason to suspect an increase from very few, if indeed from any at all. Whatever favorable results there are in the entire matter, are probably in very large part directly traceable to more intelligent and skilled dealing with ocular affections. At the same time we may assume that the treatment of diseases of a general character, some of which are liable to lead to blindness, is bettered with the course of the years, while improved sanitary conditions become more and more common.

With respect to accidents and injuries to the eye, the statistics which we have offer less satisfaction. Yet here

too we cannot believe that the situation is other than promising. There is on foot today a movement, largely of an educational character—a "safety first" movement—which aims both to warn against accidents and to indicate measures that will keep dangers away, in all of which is included security for the eyes. Special attention is also being given to the discovery of devices that will insure the protection of the sight; and far-visioned efforts are being increasingly put forth for their general adoption. Over against this progress there has to be set the great industrial growth of the country, with the industrial hazards falling more widely. Perhaps there may be said to be a race between such expansion of industry and the safety movement, though of the not distant ascendancy of the latter we need have few doubts.

The last stronghold to be conquered in our warfare for the putting of an end to blindness is probably to be that form which persists through hereditary operations. This may long remain to discomfit us; but it may be that in a future day science will here also show us the way to victory.

Finally, it is to be recorded that so serious has the matter of blindness come to be regarded, and of such importance its prevention, that there has been called into being a special organization to deal with it. This is of a country-wide scope, with coöperation from many quarters; and is engaged in a campaign both to educate the public and to secure necessary measures. In particular communities, furthermore, added efforts are being put forth in the movement.

Hence taking the situation as a whole, we may feel that there is little question that headway is being made in the prevention of blindness, and that blindness is, though perhaps very slowly as yet, tending to decrease. Indeed, of such promise may the situation be held to be, if we but take vigorous and determined and unceasing action, that the end may be hastened in a measure which we cannot now realize. There is but one slogan for us to adopt—to

speed up every effort for the prevention of blindness—every effort that will make for the keeping safe of life's most precious possession.

From the consideration of the possibilities of the prevention or elimination of blindness, we turn to the blind themselves as they exist among us. Their number in this country is somewhat over sixty thousand, probably not less than seventy thousand. Of these by far the greater number are in adult life. Blindness is found to fall with increasing frequency with advancing years, reaching its fullest extent in the later years of life. This condition may perhaps lead us to the reflection that if blindness has to cast a shadow over a portion of humankind, it is well that it chooses so many of its victims at their season of decline, thus sparing them the affliction in their time of strength.

The cost of sightlessness is of a two-fold bearing. To the individual it involves a life of peculiar hardship, bringing further burdens in its wake. It means the perpetual loss of all things in the world that enter the mind through the avenue of the eye, instead of the daily vision that is given to other men. It means also as a rule a life of dependence, instead of a life independent and free. To many it means long enforced idleness, instead of the work of willing, waiting hands. Something more even does blindness mean. It occasions the closing of most of the occupations engaged in by men. It causes the removal of those enduring it from the ranks of their fellow-men, making too often a break between mutual sympathy and understanding. It imposes a heavy strain upon the vitality; and necessitates frequent assistance from persons with sight. This is the cost of blindness to the individual. To the state blindness constitutes a loss no less distinct. There is meant the extraction from its economic supply of a certain number of otherwise able-bodied men, and their absence from its levy of potential workers. There is meant the existence in its midst of a group of citizens suffering under a grievous affliction. There is meant, finally, a serious financial drain

upon its resources, requiring the direct expenditure annually of some six million dollars, and an indirect cost of possibly over sixteen million, with perhaps a total economic loss of thirty-one million.

The position to which the blind have been relegated in the consideration of the general community may be said to be indicated in two ways, both of rather passive character—in the law and in popular conceptions. In the former we have, theoretically, the fundamental regard of the state. The legal measures referring to the blind are for the most part expressive of a well-intentioned consideration, but, save for the granting of positive aid, are perhaps without great practical value. In the opinions held by the public at large we find presented an attitude not wholly different, yet actually to some extent disadvantageous to the blind. For their condition there is an abundant sympathy, manifested in various ways, and reflecting credit on the great heart of mankind, if not always on its powers of discernment. There has perhaps been too great an inclination to lift those without sight into an extramundane sphere, and to imagine them to live in a particularly spiritual atmosphere. Often other characteristics, some less favorable, are attributed to them—here ascription to them as a class of remarkable gifts, there doubt as to their ability to do the simplest things, everywhere failure to recognize the differences among them as individuals. The life actually lived by the blind, its limitations and its remaining possibilities, the results following from the absence of the sense of sight, for the most part of a quite natural order—such is scarcely perceived. In all this there is testimony to the benevolent and warm-hearted impulses of the public, and also to its proneness to superficial conceptions.

When we come to examine the direct or positive treatment that has been extended to the blind, we have in respect to most of it a ready commentary. In whatever policy has been accorded them, there has in general been too little

heed whether this was the best for them, or whether it was likely to redound to their practical benefit. Too seldom has it been asked whether there might not be devised a really intelligent plan, based upon their actual needs, which might conduce to better and more helpful results.

If we consider the concrete lines of action calculated to deal with the problems of the blind, we find that as a usual thing it is only to the smaller portion of them that attention has been afforded in a degree commensurate with their needs. This is in the offer of educational advantages to blind children. Of the matter of education we may naturally expect the state to take full recognition, as a part, in any event, of its general educational economy. It is, however, beyond this stage that the most serious difficulties of the blind are discovered to arise, or in the years of adult life, in which the greater number are to be found. With these there are two opposite courses which it is possible for the state or society to adopt. A let-alone policy may be accepted, the blind being allowed to get along as best they may. Perhaps there will be a few able to take care of themselves, and requiring no outside assistance; while some will have friends or special means to help them over the rough places. With the blind as a whole, the matter of making out in life is to be considered their affair, and they are to go about it in whatever way they can.

The second policy is for society, acting on a new consciousness regarding the blind, to set in motion a genuine and complete program for them. A beginning may be made in a careful and thorough examination of their condition and needs. As the simplest step after the establishment of schools for the young, there may be extended educational facilities so that all the blind may be benefited by such agencies as home teaching and circulating libraries, or the full use of the printed page in their special type. There may be offered aid of a more substantial character, through the creation of special industrial establishments,

through assistance in the homes, or through the direct extension of some form of relief. There may finally come to be adopted a comprehensive scheme for all the blind with a manner of treatment appropriate to their several wants. In this there is recognition of the fact that there are in the main three classes of the blind to be considered: the young blind, or those able to be educated, those perhaps under twenty years of age; the blind of working age, mentally and physically qualified, those from twenty to fifty, or possibly to sixty; and the blind beyond such age, together with those unfitted for work, the infirm or incapacitated in general.

There are thus two extremes in the course of action in respect to the blind, between which there are any number of intermediate stages. So far as practical procedure is concerned, we may mainly expect a policy between the two, for few communities are likely now to be altogether content with the first method, and few are far enough advanced at present to accept the second.

In taking up the work for the blind as it has actually been approached in the United States, we find our first attention fixed upon the education of blind children. It may be asserted at once that provision has been made for such education in a way that is on the whole quite commendable.

Though it was largely through private enterprise in not a few cases that schools for the blind came into being, most were in operation only a short time before they were taken over by the state as public charges. The state has in the main fully recognized the importance of the education of blind children, and has undertaken this quite as fully as it has the education of its children who have sight. Half of the American Commonwealths guarantee provision for this instruction in their organic laws. In the schools the terms of admission and the general regulations have been made to conform with those of the regular schools. As a usual thing, institutional schools have been found the most

practicable arrangement, and in such most of the blind have been educated. Of late years day schools have appeared in certain of the larger cities; and it may be that a distinct place is to be found for them, though it seems likely that for the main body of blind children institutions will remain necessary. As yet the day schools have had but limited effect: they may in fact be in great measure regarded as merely the extension of the activities of local public school systems. Provision for the higher education of the blind is not, relatively speaking, a matter of vital or of pressing importance, so far as the great number of them are concerned; but for those qualified for the opportunities thus to be afforded facilities of some sort are called for, preferably by means of scholarships in the several States in regular institutions of learning for the seeing.

In some instances we find institutions where both the blind and the deaf are educated together—a situation that is to be looked upon as not other than unfortunate. For the educational wants of the blind there is required an establishment of their own, where they may receive complete and undivided attention, and where their peculiar problems may alone be considered. More important still is the need of laws to compel the attendance of all blind children at the schools. In more than a few States the present situation in this respect is most deplorable. Diligent and persistent efforts should be made to find all blind children, and pleas or excuses to keep them away should not be listened to. The state should exert its every power to the end that its sightless ones, just as all others, should be given a full education.

Nearly all the schools for the blind in the United States are public institutions, relying solely on the care and support of the state for their continued existence. With a few private benefactions have been considerable, but for the larger number little aid of such kind has been received and less expected. The legislatures have looked after the support of the schools in reasonably full measure, when

the general demand for public appropriations is considered. That the schools are not given full educational recognition is a grievance in some of the States, even though the matter may often be one of theoretical rather than of practical bearings. In time, however, this will most likely be changed, and the schools everywhere will come into their proper standing, to be considered only as the agencies of the state for the education of its children. Perhaps much the most regrettable factor in the conduct of the schools, so far as public action is involved, has been the introduction now and then into certain ones of politics—a thing most vicious in itself, and utterly subversive of the interests of the schools. But we have reason to hope that this is a phase that is disappearing, never to return, and that in the future the public will hold it as not short of criminal to countenance it in a single instance.

It is in fact in the field of education for the blind that we have a system which can be described as fairly complete. Such education is different from the education of others only by reason of the particular means called for by the exigencies of the blind. In the courses of study provided it is in all but perfect agreement with those in schools for the seeing. The instruction of blind children has become a science; and through it valuable contributions have been rendered to the domains of general education. In literary and musical accomplishments in particular a high place may be said to have been reached. Indeed, this education of blind children is now of such a standing as to suffer in comparison with education in few other lines.

Many of the schools, however, have not been content with the work which they have done in the classroom, but have sought to follow their pupils into the world outside, and to reach other blind persons there as well. In these they have from their inception maintained an interest, which has been manifested in different ways. By whatever measures have been feasible, and without impairment to their primary duties, they have endeavored to keep in

touch with such older blind, and within a certain range to be of benefit to them.

We pass now, in our consideration of the work for the blind which has been attempted in the United States, from the sphere of the education of children to that in which are concerned persons of adult years. At this point we find ourselves facing a situation quite different from that just examined. In the field which we are about to enter, action in behalf of the blind is discovered to be far from complete or general, in certain communities their interests seeming to receive but small attention.

In labor for the adult blind we may begin with the simplest and most logical step, not severing altogether the educational links, but maintaining them in a new direction. To such persons instruction may be accorded, as it were, in extension courses; or there may be provided what may be called intellectual solace. This is to be done by home teaching, by the distribution of reading matter, by the offer of library privileges, and by whatever else will contribute to the inner comfort and enjoyment of the adult blind. The tender of such mental occupation is called for in peculiar degree, and it should be seen that every means possible is employed to this end. The field work of which these ministrations may be regarded as a part is capable of indefinite expansion, and it may be made to hold in store an incalculable amount of good for the sightless.

As a systematic undertaking for the country generally, this form of aid to the blind is but beginning to be understood, though activity on the part of single agencies is of increasingly frequent occurrence. The extension of library facilities and the circulation of reading matter have both been taken up on a comparatively wide scale; while the preparation of a special literature, mainly the work of private organizations, has been carried on in a relatively satisfactory manner. Most of the blind, if they or their friends display a sufficient interest, may have a considerable amount of reading for their use, and, if need be, conveyed

into their homes. This includes not only books but periodicals as well, all of inestimable value to those who do not see. The range of matter available is, however, because of the expense involved in its production, necessarily quite limited. That a single uniform type, the want of which further restricts this literature, has not been brought into being at an earlier time is most unfortunate; but we may rejoice that the day of its coming is now at hand. With the general adoption of the new system the reading matter for the blind will be very much expanded. A further result may perhaps be that the number able to read raised print will be much increased.

The situation in regard to library facilities for the blind we find to be encouraging, both for present developments and for future probabilities. Library work reaches its greatest usefulness not so much in providing reading rooms for the sightless as in sending books directly into their homes. Nor is opportunity for such work confined to city libraries, but is open to State libraries, libraries of schools, and other libraries. Perhaps, in part because of the generosity of the Federal Government in allowing reading matter for the blind the free use of the mails, the most satisfactory arrangement consists in a limited number of large, well-stocked centers, answering to the wants of particular territories. A laudable feature today lies in the readiness of many libraries to respond with little restriction to the calls of the blind, and in the general comity manifested between different libraries. The possibilities of the movement are in fact being more and more recognized, and the results so far accomplished are on the whole not a little gratifying.

Home teaching offers possibly the greatest field of usefulness in the way of intellectual assistance to the blind, embracing as it may every form of such aid that can be introduced. It is in fact but the logical consequence of the work of libraries. Yet its benefit comes not merely from the offer of mental succor, but from the uses to which the

hands of the beneficiaries can be put as well. It is, all in all, a kind of social service than which none other is finer. In some enlightened communities the undertaking of home teaching is under fair headway, and in certain States as a whole it is being given increasing attention. The most desirable administrative body for the conduct of the work, if under public auspices, is a State commission for the blind; but in the absence of such a body other agencies may be called into requisition.

From the examination of the several forms of intellectual provision for the blind, our concern shifts to the provision for their material relief. We may now say that we have reached the real problems of the blind. Compared with these, the other questions in relation to the sightless become simple, and their solution easy. The discovery of wise and adequate measures to meet their physical wants is, with the exception only of the matter of the prevention of blindness itself, the one overshadowing issue in all treatment of their problems.

We have dwelt with much fullness upon the economic condition of the blind as we have found it. We have been particularly anxious to learn whether with their affliction they might be expected to become a self-supporting element of the population. It is in our answer to this inquiry that we have acquaintance with the most bitter of the effects of blindness. The possession of sight means so much to the wage-earner, and constitutes such an indispensable part of his equipment, that on the loss of it nearly all the customary occupations of men are at once closed: for most of the blind industrial employment is barred. A certain number of the sightless are apparently scattered over various occupations, often those engaged in before the coming on of their adversity, some by dint of their own genius and perseverance, and others through the assistance of friends or relatives. But the gainfully employed of the blind constitute only the smaller part, their proportion being only one-third of that for the general population.

In the matter of an earning capacity sufficient to supply a livelihood, a still smaller proportion reach the mark, with many it being possible to command but the scantest returns for their services. From the statistics at hand, not more than seven per cent of the entire number over ten years of age are able to maintain themselves; and of the entire number over twenty years of age, only a little more than one-fourth are self-supporting either in whole or in part, and only a little more than one-eighth entirely so. For the rest, apart from those who have means of their own, help has to come from family or friends, from private charity in some form, or from public funds in some form. A large part of the blind thus belong in the ranks of the poor, and their bread is often that of hard dependence.

In any attempts at the amelioration of the material condition of the blind very serious, in many respects formidable, difficulties are to be encountered. In the projection of operations of any kind as a remedy, we need to be quite sure of our steps.

If we consider what first comes to hand, namely, the extension of random, indiscriminate, or promiscuous aid, we have a practice of which there is little good that can be said. In general unrestricted and unregulated alms-giving the evils are too many to allow it more than allusion. It is not in keeping with the principles of scientific charity: the relief is as a rule inadequate, and cannot effect permanent betterment, while a vast field is opened to impostors.

The first means deserving of more than passing attention for dealing with the problem of material relief for the blind lies in the offer of special homes. To provide for a certain number of them, as the aged and otherwise infirm, the maintenance of special homes is entitled to consideration as the method most convenient. In large cities where there may be not a few of this class, especially women, who are without habitations of their own or are uncared for, a need is likely to be felt for such establishments, as best suited to the situation. Yet considerable prudence is to be exer-

cised in ventures of this kind, for the creation of "colonies" of parts of the population is on the whole not a desirable policy. Institutions for the blind may perhaps best be placed in the category of homes for the aged and infirm generally, and be appraised accordingly. Thus far in the United States private philanthropy has appeared most disposed to look after the interests of the blind in this regard.

There is another sort of homes in respect to which a word is to be said, namely, homes, or perhaps better nurseries, for blind babies, though the discussion of such establishments may almost as properly belong with that relating to provision for the young blind, or for those under school age. These homes likewise are an answer to a call rather for the benefit of children living in squalid or otherwise unfavorable quarters. The providing of such homes may not occupy a first place in a practical program for the blind, but as they may render a not unimportant service in the general care and health of blind infants, they should receive due attention. Private solicitude has also responded to the need; and it is not improbable that with the greater consideration of the state for the general well-being of children, public action, already commenced, may increase in extent.

Material aid to the blind, however, need not consist merely in the extension of relief to them. There is offered a means quite different in its purposes and aims. It arises from the feeling that there can be no satisfaction with any settlement of the economic problem of the blind which leaves in idleness those of them who might perchance be industrially employed, or leaves altogether dependent those who to some extent might become wage-earners. In any consideration of provision for the adult blind, we have very soon brought before us the matter of their industrial occupation.

Here, theoretically speaking, is presented the ideal solution of the great problem of the blind. Only when it is put

to the test as to its being workable does it appear in its true light. From whatever point we view the question, we find it in its practical bearings to be beset with difficulties. Approach it how we may, we cannot escape the fact of the tremendous handicap which the want of sight imposes upon men who attempt to engage in occupations engaged in by men not so burdened. The situation results from the presence of their defect alone: it cannot be charged to any particular conditions, industrial or other. Schools for the education of blind children are sometimes called to task for the largely "academic" nature of their work; but they are in the main to be absolved from censure. Most of them put forth serious and intelligent efforts to make proper industrial provision, and a considerable proportion of their graduates present a rather creditable showing industrially. Though it is the unmistakable duty of the schools to do all in their power to supply to their pupils the fullest possible training based upon subsequent wants, the larger problem is quite beyond them. This problem, furthermore, is in great part one relating to persons who become blind in adult life.

The fundamental need in the entire question, if practical effect is to be given to the plan, is for a directing hand that will be with the blind in their industrial endeavors. To bring about any extensive employment for them, there must be some special provision, which often can best be accomplished by the creation of particular industrial establishments in whatever localities they may be required. The field is open both to private and to public action, with no vital difference. Action of some kind is called for by reason of the fact that the blind compose an element of the population, suffering under a great affliction, unable to look out for themselves in industrial life, and hence entitled to such appropriate assistance.

The problem of such industrial employment of the blind, while a part of the general industrial problems with which society has to deal, often themselves not simple or easy

of solution, really rests upon a distinct basis, and is to be approached separately. The difficulties are many and serious, owing, on the one hand, to the slowness with which the blind can acquire a trade, to the tediousness and the hardship with which it may be carried on, and to the requirement of a certain amount of sighted help, and, owing on the other hand, to the disadvantages under which they labor in placing on the market products to compete with those prepared under conditions not burdened with blindness. The blind who are able to be given occupation represent at best but the smaller proportion of their entire number, there being really an opening only for those of suitable age and of proper mental and physical qualifications. The range of industries, furthermore, which are suited to the blind is exceedingly limited. Finally, after all the efforts made, it is found that the net wages going into the hands of the blind are usually but meagre, not coming near those paid to sighted labor for similar work. It may, in fact, not seldom be found that it costs more to provide for the blind thus than to give them outright the amount of their wages.

Yet the obstacles to the conducting of special industrial establishments for the blind are not to be taken as insurmountable or beyond help; nor is it ever to be thought that the possibilities of the situation are exhausted. What is involved in the creation of the establishments, and what may be expected from them, must be fully understood. It is in fact only by such realization that any measure of success may be insured.

With careful and scientific direction, accompanied by earnestness and determination, the problem may be worked out, at least on a restricted scale, with results far other than failure. Varying factors will contribute to a favorable outcome; and some shops will doubtless fare better than others. The management of all is to be upon thoroughly practical principles, without appeal to sentiment or philanthropy, and with full consideration to the suitability of

occupations, to local conditions, to the proper marketing of goods, to the betterment and extension of trade training, and to similar matters. Probably the highest efficiency will be attained by the "industrial shop," with its employees living out on the order of regular operatives in factories. To increase sales, it is necessary to acquaint the public with the wares of the blind, by the carrying on of a systematic campaign of advertising. For the further promotion of the prosperity of the establishments, it may be hoped that public institutions may find it possible to use the products of the shops, and also that no unnecessary competition with them may be established on the part of such institutions or on the part of those in the hands of private philanthropy.

As a result of the conditions under which shops for the blind have to operate, they may not be expected to be enterprises commercially profitable. The receipts from sales meet only a part of their running expenses, including the wages paid to the blind. For the maintenance of the shops a considerable outlay may be called for from outside sources. It is perhaps this need for help which constitutes the main and essential difficulty in the whole plan. Whatever the characterization applied to it, there may be the charge that it remains charity after all; and there may be reluctance if not demur to the advance of funds for the purpose. At this juncture, however, comes the one final justification for the shops: thus and thus alone may a considerable number of the blind able to be industrially employed become in any measure wage-earners, contributing to their own support—whereby there is conferred upon them the great blessing of mankind in the opportunity of work.

With regard to such industrial provision for the blind, it is to be said that it is not a new thing, and that it represents no new order. Consideration has been given to it practically from the beginning of organized work for the sightless in the United States; and there have been as high expectations as to what was to be achieved, in the past

as any nowadays advanced, with no less earnest and competent endeavor. The early schools realized the situation quite fully, and some made determined efforts to meet it, with experiences which are most illuminating, and which contain valuable lessons for us of today. It was only after the discovery that the plan of industrial establishments in connection with schools was not a workable one, that it was given up for strictly independent plants, which have become the modern arrangement. Though here and there shops founded on this plan have fallen by the way, most have continued to the present time. The movement has in fact been a progressive one, and there have never been so many establishments for the blind as there are today. As yet, however, they are found only in certain sections of the country, and afford assistance to but a small portion of those who might be so assisted. A great way has still to be gone before such provision can be called general.

Though special establishments in which blind persons may gather for labor offer a foremost means of dealing with the problem, they do not constitute the sole means of their industrial employment. There are several other forms to which attention is to be directed: the placing of the blind in regular shops or factories alongside seeing workers, the setting up of them in some kind of business undertaking, and the providing of work to be done by them in their individual homes.

With regard to the employment of the blind directly alongside the seeing, there are, because of the necessity of eyesight in so many operations, presented on the whole rather doubtful prospects. Within the powers of a very limited portion there may be found certain tasks; but the introduction of any considerable body of the blind into crafts carried on by sighted operatives is hardly now to be expected. Most in this respect will depend upon the discovery of processes possible for blind hands, and upon the convincing of employers of the qualifications of the blind therefor.

With regard to the employment of the blind in general business undertakings, there is perhaps offered somewhat greater hope, though the most favorable chances hree are for a small select group who, by virtue of their general capabilities and resources, may be continued at an occupation engaged in prior to their loss of sight, or may be able to enter a new calling. Others it may be practicable to set up in a small business, particularly with assistance from members of one's family, or with supervision by some special agency. To extend all such opportunities, as well as all other opportunities for work in closer contact with the seeing, to include an increasing number of the blind, we should strive unremittingly. The main practical consideration at present is that there be a constant lookout for openings in which the blind may be advantageously placed, especially for individual cases, here or there, or wherever they may be found. In occupations happening to be peculiarly suited to the blind there might perhaps in some instances be regulation of the competition of the seeing.

In home work for the blind there appears to lie not a little promise, especially as regards women, though at best but very modest returns are ever likely from it; and it is probable that its scope will be materially expanded in the coming years. Its success is largely contingent upon the providing of proper facilities for the disposal of the articles produced, and upon the general acquainting of the public with these articles.

For the material benefit of the blind but one other program is to be proposed—the one ultimately to be met in any consideration of their problems. This is the offer of a pension from the state to the blind who are needy and not able to be provided for otherwise. As a broad and comprehensive plan for dealing with the wants of the blind generally and because of its apparent simplicity and effectiveness, the pension arrangement will suggest itself very early among the measures proposed for the extension of substantial relief to them. Yet in the really logical, and

in the safest, order the pension plan should come only when all other projects have had examination; and if a favorable hearing is given, it should be regarded only as a last resort, to be accepted when all else has failed. The course, so far as it relates to gratuities to the blind, as to other incapacitated classes, and so far as it is afforded because of the condition of such persons, and not in return for services rendered, represents no small departure in our public economic procedure; and with little actual experience upon which to go, there is involved a policy to be approached with very great caution. In its practical application, the possible dangers and abuses are not long in becoming apparent. To attempt to render "adequate" relief—even if determination should be made as to what this is—would mean such a demand upon the state's finances as to cause hesitation before the giving of assent; while it would be difficult to know the end of the clamors which might follow from other classes of persons to be made the beneficiaries of public bounties. Nor can there clearly be foreseen the effect upon the recipient or upon his relatives when there is opened a source of aid, to be had without effort on the part of the recipient, and perhaps destroying his last attempts to provide for himself through his own initiative and labor.

Yet, grave as are the objections to the pension system, they are probably outweighed by certain positive advantages, so far as they concern that portion of the blind altogether unable to earn a wage for their living, and without any other means to depend upon for subsistence. Even though a considerable expenditure of money is called for, it must be remembered that in any other form of material aid to the class of the blind referred to, this will be no less the case, the final cost of one perhaps not being very much greater than that of the other. The plan offers relief at once definite and certain, with the further virtue of allowing the recipients to remain in their own homes. Nor does it seem altogether beyond our power to devise

a system that will eliminate the main evils likely to be attendant upon such a general distribution of public bounty. On the whole, whatever may be the implications in the adoption of a pension system for a single group of the population, the arguments for such a grant for those of the blind who are in want and who cannot be helped in any other manner, are, with our possibly changing views in matters of this kind, difficult to refute.

The pension systems thus far adopted in the United States for the blind are for the most part new. Only in a small number of States has the necessary legislation been enacted, which may be said to be feeling its way. Yet this action represents a movement of which but the beginning is now to be seen, and which may show no small expansion in future years, with the possibility that it may in time assume a regular and definite place in the public budget. Because of our hitherto limited experience with the policy, it is perhaps too early for us to judge to what extent it has proved a success. Probably the best thing for us now to do is to observe that the giving of pensions to the blind has had introduction as a means of ameliorating their condition. Recognizing this, it behooves us to see that the measures evolved are wise and practical, and surrounded by ample safeguards, to the end that they may be of the greatest possible benefit to the blind, and of the least possible injury. Attention will have to be directed to several very important matters, some of which may not easily be worked out. Aid should be extended to the worthy, and to them alone; it should be elastic in amount and based upon individual needs, and so devised as not to undermine the character of the recipient or to impair his willingness to work; it should be in relation to general family conditions and responsibilities; it should be of such size as really in some measure to meet the needs of the recipient, without imposing, in the total outlay, too great a financial strain on the public treasury; and it should be administered with reference to the work of existing agencies.

But looked at in its best light, the system of pensions for the blind is seen inherently to have not a few imperfections, and to be far from an altogether desirable arrangement. There is possible another plan for the affording of aid, which is analogous in certain respects to the pension plan, but which, being founded on entirely different principles, presents practically no objectionable features. This is indemnification for the loss of sight, which has its basis not so much in the extension of relief as such, but in the payment of compensation, so far as such is monetarily possible, by reason of and in consequence of the loss of vision. It is thus prospective in its bearings; and perhaps its greatest merit lies in the premium which is put upon the preservation of sight. The one drawback to the plan of indemnification is that it has reference largely to the future, and can have little application to the blind now with us. Yet it offers what seems the ideal solution of the problem of material assistance to persons deprived of the sense of vision, and towards its introduction and extension our main efforts in the matter should be directed.

Indemnification for the loss of sight may be had in several forms, all to a greater or less extent availed of at present, but as yet not of the far-reaching effect upon the situation which should be the case. The first is through suits at law, wherein are invoked the well-known principles of the law with respect to recovery for personal injuries from the party responsible therefor. This is the most obvious procedure when there lies a real cause for action, but it is frequently attended, especially in respect to injuries occurring in industrial employment, with uncertainty, expense, and delay. The next method is through insurance policies, or through personal insurance. Here there is called into play the general principle of insurance in that through contribution by a number of persons there is created a fund from which benefit is allowed to the person receiving a particular mishap. Such insurance may be effected in regular accident or similar companies, or-

ganized on a commercial basis; through fraternal and like orders; through labor unions; and through associations of employees, under the auspices of employers.

The field of indemnification is not, however, left altogether in private hands; it is one into which the state may enter as well. Public action may not only provide for employees in employment of a public nature, but may direct, and even assist in, measures applying to persons in private callings. The fullest action of the kind so far in the United States is that of the Federal Government. Not only has it made provision for compensation for the larger portion of its own employees, but, perhaps more significantly, it has liberally provided for persons who may be injured in military service, offering to them both direct allowances and regular insurance. In the several States action has been taken mainly in their workingmen's compensation laws, in which compensation is required from employers for injuries occurring to employees in the course of work. Nearly all the States of the Union now have such laws, and those States without them may be expected soon to join the movement. In most cases the employments covered by the provisions are of a restricted range, and it is to be hoped that these will be expanded, so that eventually all industrial employments may be embraced. Through such measures proper relief is afforded for blindness resulting from accidents or injuries in industrial occupations, with the further very strong inducement to the introduction of due safeguards for the protection of the eye.

After this, so far as indemnification for the loss of sight is concerned, the principle will have to be extended to other persons liable to loss or impairment of sight, and not otherwise provided for, especially persons in the advanced years of life. All measures to such end, it is evident, are a part of the great matter of social insurance. In insurance, whether for accidents, for sickness, for invalidism, or for old age, there will be given a place to the loss or impairment

of sight; and in all attention will be focussed upon measures of prevention, both in respect to accidents and in respect to diseases either directly causing, or likely to lead to, blindness. Social insurance today looms large on the horizon, and its rather wide application is among the not distant possibilities. In its bearings upon the loss of sight, we can but await its further developments, and find what it has to offer.

The foregoing constitute the main features of a wide program of work for the blind, beginning with the education of the young and extending through the according of material relief to the adult. Yet full as the program is, it is not to be regarded as complete. For the correlation and unification of all the activities of society, as well as for the proper preliminary determination of the condition and needs of the blind, something further is demanded. This is the creation of private associations for private movements, and public commissions for public. In such manner the various problems presented by the blind may be duly and carefully examined, and suitable measures set in operation to meet them as a whole. Indeed, the work thus at hand is of manifold character: to seek first of all to prevent blindness, and then to look after the blind of the community or of the state, ministering to them individually or collectively as their several needs demand, or conducting whatever proceedings may be found suitable—in short, adopting comprehensive and far-reaching measures in accordance with the wants of the blind. Thus the entire gamut of beneficial service may be called forth; and life may be made infinitely brighter and more abundant for many of the sightless. Indeed, so vast are the possibilities to organizations formed for the benefit of the blind that probably few if any others are qualified to serve humankind with richer or happier results.

In the idea of the public commission is perhaps contained the element of largest significance in the work for the blind today. It is the crystallization of the conviction that they have certain problems peculiar to themselves, and that these

problems are of such importance to the state as properly to be taken cognizance of by it. The commission thus represents the ultimate concern of the state for the blind, with the recognition that through its machinery of organization they are to receive the special attention to which they are entitled. At the same time it is not to be understood that the field is to be preëmpted by the state, or that the state is to assume the entire task of relieving the blind. There will always remain a great work for private bodies, aside from coöperation; and there may be mutual stimulation for both.

In one form of recent public action there is contained special significance, and perhaps much promise. This is in the provisions, as a result of its participation in war, of the Federal Government for the care and training of persons blinded in military service, in connection with its provisions for their indemnification. So comprehensive and far-visioned are these provisions that they represent not merely a new procedure, but a procedure of the highest social import. It may be found that the Government has builded better than it knew. It may be that what has been initiated by it will be extended into various spheres in times of peace. Is it too much to hope that before many years provision will be made along similar lines for the treatment of persons blinded in industry or in other walks of common life?

We have in these paragraphs surveyed the various forms of labor for the blind in the United States, noting the extent of present, and the probable direction of future, action. We have found that there is now what may be called a new basis of work for them, adopted for the reason that in more recent years we have come to see the inadequacy of a program that confined itself chiefly to the establishment of schools for the young, and failed to recognize the no less imperative claims of other classes. We have considered the aims and methods of the several activities designed to carry into effect the new understanding, and have en-

deavored to ascertain the significance and actual workings of the agencies created as a result thereof. While in this there is discovered much to cheer us, the awakening is hardly yet to be called general, or the progress rapid. Comprehensive policies have been taken up in but very few States, and a beginning on a noteworthy scale in still fewer. Our large reason for encouragement lies in the circumstance that there is a growing realization of the problem, and that a movement is in fact under headway. Furthermore, we are able now to formulate a program for the betterment of the condition of the blind, with a comprehension of the most important steps to be taken, of itself a quite measurable advance.

In respect to the present trend in the work for the blind, our confidence is accordingly to be ascribed rather to the attention that is now being turned to their problems than to the actual achievements being presented. Of the latter we may point to but one form that has been general. This is the matter of education, for here the duty has been seen and full and effective response on the whole has been made. As to the major problem, we discern that, though in but few communities may the movement be said to be wide, it is one that is unquestionably gaining in strength. In the construction and execution of intelligent programs of work for the blind, certain communities are entitled to a high place. In other communities progress is being made that, though less marked, is quite gratifying. Perhaps a score of States now have public authority for the taking of more or less appropriate action, some of which seem well on their way to the adoption of extended measures. In the creation of commissions is probably marked the most decided advance in the new view of the problems of the blind, though a promising interest is being otherwise manifested. By schools for blind children a concern is being displayed outside their immediate educational tasks. Much credit is likewise to be bestowed upon those organizations formed for the purpose of helping the blind, which

have often been framed along broad lines, and which have in a few instances been the forerunners of public endeavor. Finally, through every measure and every program, the entire question of action for the blind is increasingly, and on more and more sides, seen to be held fast with the question whether all this blindness should be; and we have come to understand that the first article of our faith, as well as our uppermost task, is to be the prevention of this affliction wherever it may be possible. From such attitude may be said to date the beginning of the end of blindness —so far as it may humanly be prevented.

In the consideration, however, of programs to be adopted in respect to the blind it is to be borne in mind that while in their difficulties there is much in common, there are many individual differences to be taken into account. Indeed, it may be said with much truth that there is no such thing as a "problem of the blind": there are as many problems as there are blind persons to be dealt with. It is from this very fact that there arise the most baffling features in attempts to provide for the blind as a class or group. There are variations among them in temperament, in mental faculties, in physical health, in age, in domestic relations, in industrial experience, in social environment, in general economic conditions. Demands as to them may be rendered more pressing or less pressing according to whether a given locality is rural or urban, industrial or agricultural; according to the degree that family responsibilities are accepted; according to whether there are at hand pecuniary resources of any kind; according to the possession of individual strength and vigor, of thrift, of adaptibility, and of determination; according to the recentness of the affliction; according to previous education or previous occupation; and according to whatever other diverse circumstances may exist.

In all forms of service to the blind, there is also to be remembered the great part played, not by "organized" effort, but by "invisible" processes. The attentions and

ministrations of a devoted wife, parent, child, or brother, and now and then of a sympathetic and practical-minded neighbor or friend, are, apart from their life-long duration, of a character and extent quite beyond recount. Here perhaps nearest of all are rendered "eyes to the blind."

But in whatever manner and in whatever measure the wants of certain of the blind are lessened or made less urgent, there remains no question, from all that has been revealed to us, that there are many whose need is great, and for whom there is called the best than an intelligent and humane society can give.

For a recognition of the full demands of the blind, and the realization of the possibilities of a new order towards them, we have still a long way to go. The difficulties in getting any considerable portion of the community truly interested in them are not small. The sightless do not constitute a large part of the population, many people seldom come into contact with them, and the general public remains in comparative ignorance as to their real problems and needs. Indeed, some of the most important work yet to be done for the blind is the securing of an intelligent understanding in respect to them. When this is accomplished, the way for the betterment of the condition of the blind will be materially smoothed.

Our examination of the work for the blind is now finished. What shall we think of it and its possibilities? The blind have a great burden; but it is possible for us to lighten it for them, and to see that others will not have to bear it. Thus far in the main we have given the blind much of commiseration; but we have been too busy with other things to comprehend our entire duty towards them. All too often the great sympathy which they have wrung from us has been of no avail to them. From the compassion stirred within us has been borne fruit of little practical character. We have been ready enough to cast a pitying glance, perhaps to throw an alms, and have turned away

and given no further thought. For our treatment of them we have much to reproach ourselves.

Yet in the present outlook we have somewhat to bring us cheer. It is not in what has been accomplished, but in the beginning that has been made, that we are to find encouragement. We have this feeling because increased attention is being accorded to the problems of the blind, because concern in them has become more general, and because in more quarters today there is a real awakening to the importance of the situation. From all these things it results that in certain fields earnest and well-considered movements are now being projected to reach and assist those without sight, and that efforts are being made to put the work for them on a secure and far-extending basis. There is thus a better laid plan of investigation and a more comprehensive scheme of provision than there has ever previously been, the culmination of which will mean the promotion of the welfare of the blind and of their position in the social body to a degree not before known.

It is not to be thought that a revolution is at hand in respect to the amelioration of the condition of the blind. Nor is it to be thought that their problems are on the eve of being solved. There is no solution of these problems this side of the restoration of the blind to sight. The one infinitely saddening thing in the consideration of their problems is that these can only be stated by us: their full solution is beyond us. The way in the direction of a solution, indeed, cannot be other than a slow and arduous one, as is the case with other of the problems of social import. There is no royal road thereto to be discovered. Even if we are to proceed a measurable distance on the path, it will be solely by dint of patient endeavor and persevering earnestness, accompanied with a holy zeal. Only by these things can we reach a place where we shall have any right or call to feel that we have done all that is within our hands to do for the blind.

But it may be said in truth that a movement for the

betterment of the lot of the blind is now afoot, and that we are able to see brighter prospects ahead. In the end, we must believe, every means will be taken to keep any human being from suffering blindness; and for the blind that are among us, it will be seen that the load is made less heavy, so far as it may be given us so to do. Towards such an issue events will tend if we but gird ourselves for our duty.

Our message is, then, after all, one of hope. This hope has ground in the increasingly determined efforts to reach and help all those who sit in darkness. Such may mean that a new day is dawning for the blind, in which their estate will be higher than it has ever been hitherto in the world.

Our hope goes deeper still. A far greater possibility rises before us—a possibility of such moment as to charge us with unfaltering resolve and move us to unceasing action. For in the fullness of our faith, we may look to the coming of a time, to be brought near according as we bestir ourselves, when this affliction of the bearers of which we have written, shall be lifted from among men—when blindness itself shall be no more.

Of the blind we must now take our leave. But ere we do, let us consign them to the care of the loving Jehovah: "AND I WILL BRING THE BLIND BY A WAY THAT THEY KNEW NOT; I WILL LEAD THEM IN PATHS THAT THEY HAVE NOT KNOWN: I WILL MAKE DARKNESS LIGHT BEFORE THEM, AND CROOKED THINGS STRAIGHT. THESE THINGS WILL I DO UNTO THEM, AND NOT FORSAKE THEM."

APPENDIXES

APPENDIX A

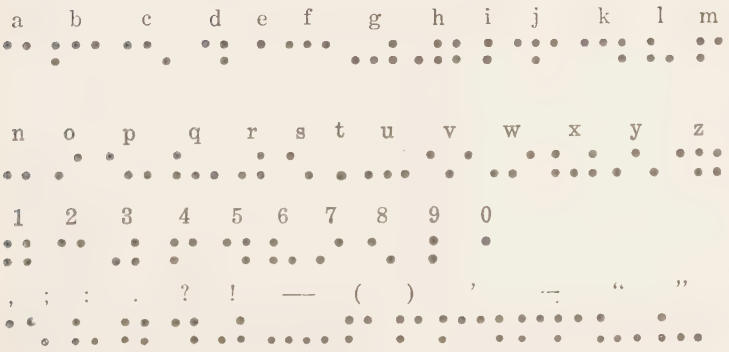
ILLUSTRATION OF ALPHABETS IN RAISED PRINT USED BY THE BLIND

1. Line Type

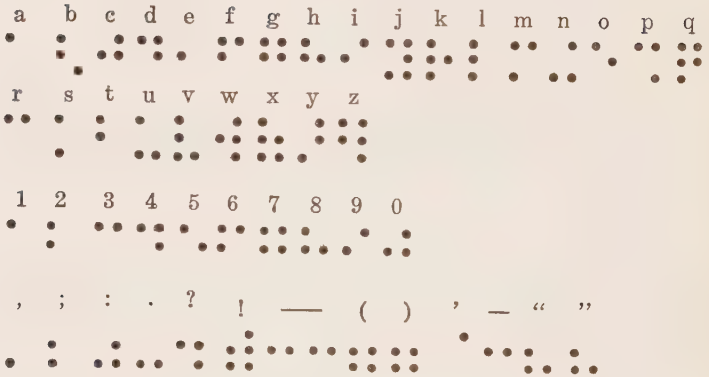
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

2. Moon Type

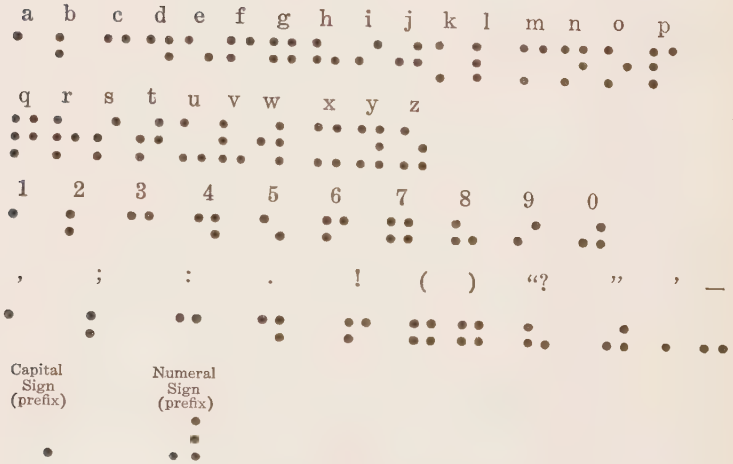
3. New York Point



4. American Braille



5. Revised Braille
(*English Braille*)



APPENDIX B

TABLES WITH RESPECT TO SCHOOLS FOR THE BLIND

I. Institutions

School	*Location*	*Date of opening*	*Number of pupils*
Alabama School for the Blind	Talladega	1888	102
Alabama School for Negro Deaf and Blind	Talladega	1892	21
Arkansas School for the Blind	Little Rock	1860	131
California School for the Deaf and Blind	Berkeley	1860	97
Colorado School for the Deaf and the Blind	Colorado Springs	1874	44
Connecticut Institute for the Blind	Hartford	1893	49
Florida School for the Deaf and the Blind	St. Augustine	1885	25
Georgia Academy for the Blind	Macon	1851	99
Idaho State School for the Deaf and the Blind	Gooding	1906	17
Illinois School for the Blind	Jacksonville	1849	214
Indiana School for the Blind	Indianapolis	1847	141
Iowa College for the Blind	Vinton	1852	136
Kansas State School for the Blind	Kansas City	1867	95
Kentucky School for the Blind	Louisville	1842	140
Louisiana State School for the Blind	Baton Rouge	1856	59
Maryland School for the Blind	Overlea	1853	121
Maryland School for the Colored Blind and Deaf	Overlea	1872	26
Perkins Institution and Massachusetts School for the Blind (Massachusetts)	Watertown	1832	300
Michigan School for the Blind	Lansing	1865	156
Minnesota School for the Blind	Faribault	1863	101
Mississippi Institute for the Blind	Jackson	1848	80
Missouri School for the Blind	St. Louis	1851	119
Montana School for the Deaf and the Blind	Boulder	1893	19
Nebraska School for the Blind	Nebraska City	1875	57
New Mexico Institute for the Blind	Alamogordo	1903	50
New York Institute for the Education of the Blind	New York City	1832	125
New York State School for the Blind	Batavia	1868	192
North Carolina State School for the Blind and the Deaf	Raleigh	1845	244
North Dakota School for the Blind	Bathgate	1908	36
Ohio State School for the Blind	Columbus	1837	218
Oklahoma School for the Blind	Muskogee	1897	96
Oklahoma Industrial Institute for the Deaf, Blind, and Orphans of Colored Race	Taft	1909	3
Oregon State School for the Blind	Salem	1873	42
Pennsylvania Institution for the Instruction of the Blind	Philadelphia	1833	206
Western Pennsylvania Institution for the Blind	Pittsburgh	1890	148
South Carolina Institution for the Education of the Deaf and the Blind	Cedar Spring	1855	95
South Dakota School for the Blind	Gary	1899	28
Tennessee School for the Blind	Nashville	1843	231
Texas State School for the Blind	Austin	1856	244
Texas Deaf, Dumb, and Blind Institute for Colored Youths	Austin	1887	114
Utah School for the Blind	Ogden	1896	36
Virginia School for the Deaf and the Blind	Staunton	1839	80
Virginia State School for Colored Deaf and Blind Children	Newport News	1910	31
Washington State School for the Blind	Vancouver	1886	50
West Virginia Schools for the Deaf and the Blind	Romney	1878	97
Wisconsin School for the Blind	Janesville	1849	140

II. Day Schools

State	*School*	*Date of opening*	*Number of pupils*
California	Los Angeles School for the Blind	1917	15
Illinois	Chicago Public Schools for the Blind	1900	51
Louisiana	New Orleans School for the Blind	1916	—
Michigan	Detroit Public School for Blind	1912	26
New Jersey	Jersey City Public School Classes for Blind	1911	9
	Newark Public School Classes for Blind	1910	19
New York	New York City Public School Classes for Blind	1909	213
Ohio	Cincinnati Public School for the Blind	1905	19
	Cleveland School for the Blind	1909	75
	Toledo School for the Blind	1915	21
Texas	Houston School for the Blind	1917	—
Wisconsin	Milwaukee Day School for the Blind	1907	65
	Racine Day School for the Blind	1909	7

APPENDIX C

TABLE WITH RESPECT TO HOMES FOR THE BLIND

I. Homes for the Adult Blind

Name	*Location*	*Date of opening*	*Number of inmates*
Home for the Blind	Washington, District of Columbia	1899	15
Iowa Home for Sightless Women	Des Moines, Iowa	1915	6
Memorial Home for the Blind	Worcester, Massachusetts	1905	12
Blind Girls' Home	St. Louis, Missouri	1868	35
Home of Our Lady of Perpetual Help	Bayonne, New Jersey	1890	15
St. Joseph's Home for the Blind	Jersey City, New Jersey	1890	86
Home for the Blind of Church Charity Foundation	New York City (Brooklyn), New York	1895	16
Home of New York Society for the Relief of the Destitute Blind	New York City (Manhattan), New York	1868	100
St. Joseph's Asylum for Blind Girls	New York City (Staten Island), New York	1895	57
Clovernook Home for the Blind	Mt. Healthy (Cincinnati), Ohio	1903	22
Chapin Memorial Home for Aged Blind	Philadelphia, Pennsylvania	1910	11
Pennsylvania Industrial Home for Blind Women	Philadelphia, Pennsylvania	1868	76
Retreat for Blind Mutes and Aged and Infirm Blind	Philadelphia, Pennsylvania	1884	10
Blind Girls' Home	Nashville, Tennessee	1901	9

II. Homes for Blind Children

Name	*Location*	*Date of opening*	*Number of inmates*
Connecticut Institute for the Blind (Department for Infants)	Farmington, Connecticut	1893	25
Boston Nursery for Blind Babies	Boston (Roxbury), Massachusetts	1901	40
Monroe Home and Hospital for Blind Babies	Monroe, Michigan	1913	10
Catholic Institute for the Blind	New York City (Bronx), New York	1909	27
Brooklyn Home for Blind, Crippled, and Defective Children	New York City (Brooklyn), New York	1907	—
Dyker Heights Home and Kindergarten for Blind Children	New York City (Brooklyn), New York	1904	34
Arthur Home and Kindergarten for Blind Children	Summit, New Jersey	1910	53

APPENDIX D

TABLE WITH RESPECT TO INDUSTRIAL ESTABLISHMENTS FOR THE BLIND

Location	*Name*	*Year of opening*	*Number of employees*
Birmingham, Alabama	Alabama Industrial Home for the Blind	1915	10
Oakland, California	California Industrial Home of Mechanical Trades for the Adult Blind	1885	123
San Francisco, California	Workshop for the Blind	1912	15
Denver, Colorado	Colorado Industrial Workshop for the Blind	1907	20
Hartford, Connecticut	Connecticut Institute for the Blind (Department of Trades)	1893	42
Wilmington, Delaware	Industrial Exchange for the Blind	1908	17
Washington, District of Columbia	Columbia Polytechnic Institute for the Blind	1900	10
Chicago, Illinois	Illinois Industrial Home for the Blind	1887	100
Chicago, Illinois	Workshop for the Blind	1916	15
Indianapolis, Indiana	Indiana Industrial Home for Blind Men	1899	20
Louisville, Kentucky	Kentucky Workshop for the Adult Blind	1913	8
Portland, Maine	Maine Institution for the Blind	1907	25
Baltimore, Maryland	Maryland Workshop for the Blind	1908	177
Boston, Massachusetts	Workshop of Perkins Institution	1840	20
Cambridge, Massachusetts	Workshop of State Commission	1904	14
Cambridge, Massachusetts	Workshop of State Commission (rug department)	1904	32
Fall River, Massachusetts	Workshop of State Commission	1909	8
Lowell, Massachusetts	Workshop of State Commission	1908	10
Pittsfield, Massachusetts	Workshop of State Commission	1905	10
Worcester, Massachusetts	Workshop of State Commission	1908	8
Saginaw, Michigan	Michigan Employment Institution for the Blind	1903	86
St. Louis, Missouri	Workshop for the Blind (Commission)	1913	43
St. Louis, Missouri	Workshop for the Blind (United Workers for the Blind)	1916	13
Trenton, New Jersey	Auxiliary for the Industrial Blind	1911	5
Albany, New York	Workshop for the Blind	1913	9
Brooklyn, New York	Brooklyn Industrial Home for the Blind	1893	58
Brooklyn, New York	Exchange and Training Center for the Blind	1912	38
Buffalo, New York	Workshop for the Blind	1906	16
New York, New York	Bourne Workshop for the Blind	1906	99
Rochester, New York	Workshop for the Blind	1916	15
Syracuse, New York	Workshop for the Blind	1917	4
Cincinnati, Ohio	Workshop for the Blind	1912	21
Cleveland, Ohio	Workshop for the Blind	1906	25
Columbus, Ohio	Workshop for the Blind	1912	15
Portland, Oregon	Workshop for the Adult Blind	1913	20
Philadelphia, Pennsylvania	Pennsylvania Working Home for Blind Men	1874	150
Pittsburgh, Pennsylvania	Workshop for the Blind	1911	40
Nashville, Tennessee	Workshop for the Blind	1918	10
Milwaukee, Wisconsin	Wisconsin Workshop for the Blind	1903	35

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